The

Journal

of the

Academy of Management

Vol. 1, No. 1

April, 1958

The Journal of the Academy of Management

Copyright
The Academy of Management
1958

Paul M. Dauten, Jr.,
Editor

Dalton E. McFarland,
Associate Editor

April, 1958

ACADEMY OF MANAGEMENT

Current Officers

President	Billy E. Goetz
Vice President	Merten J. Mandeville
Secretary-Treasurer	Joseph W. Towle

Research and Publications Committee

Dalton E. McFarland, Chairman

Wayne G. Broehl, Jr.	Preston P. LeBreton
Paul M. .Dauten, Jr.	Franklin G. Moore

Past Presidents

1957	Alvin Brown Johns-Manville Corp.	1951	William H. Newman Columbia University
1956	Franklin G. Moore University of Michigan	1950	Michael J. Jucius Ohio State University
1955	Ronald B. Shuman University of Oklahoma	1949	Erwin H. Schell Mass. Inst. of Technology
1954	William R. Spriegel University of Texas	1948	Ralph C. Davis Ohio State University
1953	Franklin E. Folts Harvard University	1941 to 1947	Robert P. Brecht University of Pennsylvania
1952	John F. Mee Indiana University	1936 to 1940	Charles L. Jamison, Founder University of Michigan

Note: (The Academy was organized on an informal basis from 1936 to 1940, and was inactive because of World War II from 1942 to 1946.)

TABLE OF CONTENTS

		Page
Preface		5
Organizational Constructs: An Approach to Understanding Organizations	William B. Wolf	7
Is It Production "Control"?	T.S. Isaack	16
Determining Relative Degrees in the Delegation of Executive Authority	Albert K. Wickesberg	18
Management Philosophy: The Time Dimensions of Planning	Paul M. Dauten, Jr.	23
The Case Study Method and the Establishment of Standards of Efficiency	Preston P. LeBreton	34
Executive Decision Making	Richard N. Schmidt	36
A Preliminary Statement of Principles of Planning and Control	Harold Koontz	45
Toward a Concept of Education for Administration	Paul C. Goelz	62

Copyright 1958

The Journal of the Academy of Management is published three times a year--in April, August, and December. Subscription prices: domestic, including Canada and Mexico, $3.00; foreign $3.50; single copies $1.25. Reprints of individual pages or articles will be furnished at cost upon request. Manuscripts and other communications should be addressed to Paul M. Dauten, Jr., Editor, 1007 W. Nevada Street, Urbana, Illinois. Permission to quote from these pages is hereby granted provided that appropriate credit is given to the author and to the Journal of the Academy of Management.

A & A Service, Publishers
Champaign, Illinois

PREFACE

The publication of a management journal by the Academy of Management represents a significant benchmark in the history of this organization composed of eminent management academicians. The launching of a new publication is never the job of one man, or even of several men. For the past two years the Research and Publications Committee has discussed the possibility of publishing a journal. These discussions, carried on particularly by Professors Merten J. Mandeville, Dalton E. McFarland, and Keith Davis during the year of 1956, resulted in a vote to start a new publication entitled The Journal of the Academy of Management. The University of Illinois, with an assist from Academy member Dean Paul M. Green, is providing secretarial assistance and an editorial office for the project. The members of the Research and Publications Committee have worked hard and long, both in studying the many manuscripts that have been received and in offering excellent constructive suggestions regarding their publication.

The problem of establishing policies is one that is common to all projects of a continuing nature. Like the search for any standard, policy formulation is a continuing quest for the one best way of doing something. The statement of policy that results is more than a guide to action. It is simultaneously a statement of intention or purposes, and it serves as an operating criterion. But an important part of any manager's job as he approaches his task is to clarify purposes. Accordingly, our initial statement of policy might be considered to be a first attempt to clarify goals and to suggest tentative rules which might be of assistance in reaching them.

Clearly the objectives of The Journal of the Academy of Management must contribute in optimum fashion to the attainment of the goals of the Academy itself. As the Journal makes progress and as our Academy goals clarify themselves, we shall doubtless find that the purposes of this Journal and the established procedures for reaching them will require periodic revision. The purposes of the Academy in their most recently revised form are succinctly worded as follows:

"The Academy is founded to foster the search for truth and the general advancement of learning through free discussion and research in the field of management. The interest of the Academy lies in the theory and practice of management, both administrative and operative. It is concerned also with the theory and practice of operative management as it relates to the work of planning, organizing, and controlling the execution of business projects. It is also concerned with activities having to do with the forming, directing, and coordinating of departments and groups which are characteristic of administrative management. It is not concerned primarily with specialized procedures for the control and execution of particular kinds of projects that are significant chiefly in narrow segments of a business field.

"The general objectives of the Academy shall be therefore to foster: (a) a philosophy of management that will make possible an accomplishment of the economic and social objectives of an industrial society with increasing

economy and effectiveness: the public's interests must be paramount in any such philosophy, but adequate consideration must be given to the legitimate interests of capital and labor; (b) greater understanding by executive leadership of the requirements for a sound application of the scientific method to the solution of managerial problems, based on such a philosophy; and (c) wider acquaintance and closer co-operation among such persons as are interested in the development of a philosophy and science of management."

This Journal can significantly contribute to these objectives through the publication of research findings and well-written articles that relate to these purposes and by publishing news items of interest to its members. All items intended for publication in the Journal must be written in a straightforward style of English--esoteric writing will find no place in the Academy's Journal. The Academy's Research and Publications Committee has decided against the publication of book reviews. In later issues it may prove of interest to publish biographical sketches of outstanding Academy of Management members. Suggestions on these and other matters relating to the Journal will at all times find a welcome reception.

It is suggested that, as a general rule, full-length articles contributing to the objectives of the Academy be approximately 1500 to 3000 words in length. Shorter, abbreviated notes on some specific aspect of management thought, philosophy, theory, curriculum-building, or teaching will be particularly welcome. Perhaps one of the more important heuristic functions that the new Journal can fulfill is that of exchanging specific new insights into challenging management problems. Interested consideration will be given to any worthwhile idea or note that may induce some reader to continue the writer's thread of thought in pushing back the vistas of management thinking. Many of us have such specific, detached ideas on various topics and these notes could be submitted for the consideration of other members of the Academy without investing extensive scholarly effort. The editor stands ready to provide help in readying such items for publication. Stylistic assistance is available to authors through our University's English Department.

All manuscripts should be double-spaced. A single copy will suffice. Typing, or any form of mechanical reproduction is acceptable, if it is clearly legible.

As was done in the case of the articles submitted for consideration in this first issue, all manuscripts will be re-typed and identified only by a code number. This will insure an objective and impartial evaluation by the Board of Review. The editor will not reveal the identity of the writer to any person without the author's express consent.

The pages that follow are the result of the welcome and enthusiastic response of Academy members and others in submitting so many manuscripts. For this interest the editors and the Research and Publications Committee are indeed grateful. It is our hope that this new Journal of the Academy of Management will function almost immediately as a useful and influential instrument of considerable stature--one that will fill a vital role for academicians and businessmen all over the world.

The Editor

ORGANIZATIONAL CONSTRUCTS: AN APPROACH TO UNDERSTANDING ORGANIZATIONS

WILLIAM B. WOLF

UNIVERSITY OF WASHINGTON

The purpose of this paper is to outline the essence of an approach for understanding the functioning of formal organizations.[1] Probably the best way to begin describing this approach is to explain how it came to my attention.

In 1943 I was working for a relatively large manufacturing firm. My duties brought me into contact with several of its plants. As I moved from one unit to another, it was apparent that each had a different atmosphere. The plants were like people in that each had its own personality or character. This fact was reflected in the manner in which jobs were done, the type of persons who fitted into the organization, the modes of dress, and the manner in which the techniques of management were used.[2] Later, around 1946, I began to write a book on production management. It was to be a "how to do it" manual oriented toward solving specific problems of manufacturing plants. It was based on empirical evidence gained through clinical studies of a variety of plants. However, as I proceeded to study different plants, the "whys" for actions appeared to be of primary importance. It was necessary to deal with fundamentals and to have a sound theory of organization before one could be so bold as to write a "how to do it" manual.

In reviewing the existing literature on organization, I have been unable to find a treatment of the subject that provides a framework for what I am attempting to do. Excellent work has been done in describing specific organizations and in analyzing their common features. Work has also been done in describing specific techniques and comparing special aspects of manufacturing plants. Yet to the best of my knowledge none of these deals with organizations in a manner that focuses attention upon those areas which my research has indicated are of primary importance in understanding the functioning organization.

Thus, this paper describes an approach to the study of organizations which may, upon further study and research, supply a general theory of organization. It does so by considering the following subjects: (1) the nature of organizational constructs; (2) the problems in studying constructs; (3) a description of the study of an organizational construct; and (4) some of the implications of organizational constructs to research and teaching in the field of business administration.

The Nature of an Organizational Construct

In effect, every organization is an organizational construct, for, by "organizational construct," we are referring to that system of causality which determines an organization's character. The term organizational construct is used here to emphasize that we are dealing with the system of

causality, not its parts in isolation. In short, the term has been selected to focus attention upon the fact that the manner in which a given organization functions is the net result of the complexity of the relationships of its parts to it as a whole and to each other. Each organization is more than a system of parts, components, and relations. It is also the interaction of the forces and parts.

The Problems in Studying Organizational Constructs

It must be realized that an organizational construct is a system involving a complex of mutually related parts that act and interact to create and maintain the organization, which at the same time patterns the activities of its parts and forces. This is to say, the study of organizational constructs involves numerous variables that are mutually dependent and which at the same time have their impacts determined by the overall construct which they help maintain. This type of relationship can be illustrated by considering one of the variables in an organizational construct. Take, for example, leadership. The effective leader in an organization is effective in part because he has special characteristics which meet the needs of his organization. Yet, at the same time, his effectiveness is in part a function of the impact he makes on that organization. We may think of his effectiveness as being determined by the character of the organization and at the same time determining the nature of that character.

Recognizing the nature of organizational constructs, it becomes apparent that there is only limited value in studying them by applying simple cause and effect reasoning to ad hoc problems. Each part and its functioning is an aspect, or dimension, of a complex of many dimensions. The construct as a whole is not a super-entity produced by adding its respective parts. It isn't valid to fractionate or reify observations of the various dimensions of the construct, for each is interrelated to the others and each has a relative magnitude which is a function of the whole of which it is a part.[3]

Furthermore, we should perceive that the use of statistical methods has only limited applicability in providing an understanding of an organizational construct. The measurement of any specific dimension is significant primarily in relation to its other dimensions. Although we may arbitrarily divide a construct into parts, in order to understand the functioning of the parts, we must reconstruct the construct as a whole in order to understand it as a functioning whole.

It is evident that the study of organizations should deal not only with its specific parts but also with functioning wholes. Yet the complexity of constructs poses special problems. We are caught in the 'parts versus the whole' conflict. To study the parts in isolation fails to give one a knowledge of the whole. It is like the old parable in which a Raja placed an elephant in the midst of a number of blind wise men. One blind man felt the tusk of the elephant, another the ear, another a leg, and so forth. When asked to describe the elephant, one said that an elephant was a large stone, another that it was a winnowing fan, another that it was a tree trunk, and so on. Each described the elephant as the part which he felt. None, by himself, could describe the elephant

as it really was.

The alternative of studying organizational constructs as wholes appears to be an unmanageable job. The whole is too vast and intricate. We are apt to end up with nothing more than the statement that "everything is related to everything else."

The answer to this dilemma is to study the parts but to do so in a manner which relates them to the construct as a whole and to each other. We are forced to treat the parts in isolation, but we may do so in a manner that will provide us with an understanding of the functioning organization. The procedure is to examine the principal parts one at a time and to make the tentative assumption that the part being examined is the only independent variable. In this way we can note any tendencies that it may have as a determining agent.

In making such an analysis we must recognize the artificiality of our assumption. Furthermore, we should recognize the need for the assumption--by analyzing the parts in this manner we may be able to discern their roles and interactions in a given construct.

Thus the manner by which we will proceed is to first analyze the parts. From our analysis we shall draw tentative inferences about the construct. Where such conclusions are reinforced by the inferences drawn from analysis of a number of parts we shall tentatively assume that our deductions represent existing facts. In this manner we may develop a perspective of the organization as a whole.

What I am describing as an approach to the study of organizations is in reality nothing new.[4] Most successful consultants follow this procedure in the first phase of their study of a new client's company. They call it a management survey.

Interviews with successful consultants indicate that frequently what they call their "common sense" or their "intuition" involves thinking in terms of organizational constructs. The consultants, of course, are not fully conscious of this. It appears that they have acquired a considerable amount of knowledge about the surroundings they work in and have learned to make a vast number of adaptations to it. However, they have learned in a pragmatic way and are not completely aware of the learning process or the theory underlying what they do.

A Description of the Study of an Organizational Construct

Probably the best way to illustrate the method for studying an organizational construct is by citing an example. Once this has been done we shall turn to some of its implications. The following is a cursory example. Its purpose is simply to illustrate the method.

Let us suppose that we are about to study the manufacturing plant of a firm that makes specialized machinery for the lumber industry. At the outset we are told that the firm manufactures a quality line of heavy equipment for sawmills, that it is an old and well established firm, that most of its equipment is manufactured to order, that the individual machines sell within a price range of $10,000 to $30,000, that the company was recently purchased by a private party, and so forth. Our job is then to develop an understanding of how this speciiic

plant functions, what its operating problems are, and what methods can be used to mitigate or solve its problems.

What we would do is size up the organization in terms of the principal forces operating in its construct. As we noted these forces we would draw logical inferences as to their roles in the construct. We would analyze each force so as to ascertain its probable role-relationship with the other forces and with the construct as a whole. Thus, if we noted a recent change in the leadership of the firm we would expect to find a communications problem, a morale problem among key supervisors, and the other aspects of the syndrome that is usually associated with a change in the leadership of a manufacturing firm.[5]

The hypotheses underlying such deductions hold that in most organizations there is one individual whose shadow is reflected throughout the entire unit.[6] We call such an individual a "leader." The leader, in this connotation, is to be differentiated from other key or supervisory personnel by the degree to which he influences the activities, beliefs, and interests of the people in the organization.

The leader usually dominates the organization due to his ability to structure the work environment and because of his control over individuals in that environment. He selects supervisors and key personnel and he has the final say in promotions and raises. Thus the persons in the organization are under economic as well as social pressure to adjust to the interests of the leader.

Of course, it should be recognized that the extent to which the leader's shadow influences the organization will vary from one organization to another. It will depend upon the specific constructs. The point to be emphasized is that the tendency for the leader to dominate does exist, and consequently we assume that if we can identify and come to know the leader of the organization, we can make a number of deductions about the nature of that organizational construct. Conversely, if we know a number of facts about the construct we may make a number of predictions about its leadership.

In our hypothetical case we would infer that the organization would change to accommodate its new leader, and the leader would also change to accommodate the organization.[7] Furthermore, we would assume that changes in leadership are accompanied by a pattern of reactions among the personnel in the organization. The underlying hypothesis--grossly simplified--runs something like this: The new leader has a "feeling out" period during which he attempts to size up his organization and get on top of his job. One of his first and most difficult hurdles is to establish reliable communications throughout the organization. In this task he is hindered by a lack of knowledge of the social organization of the plant, lack of loyalty toward him by members of the organization, and, in certain cases, definite resistance to his leadership. Faced with these and similar problems, the new leader will tend to rely on formal reports, that is, budgets, cost reports, and so on, to supply him with the necessary data to perform his job. And he will tend to build his own organization by bringing in people from the outside, for example, friends and former colleagues, and by redefining

jobs and reassigning personnel.

The above description is by no means a complete analysis of the role of leadership or the significance of changes in leadership. The purpose in describing these matters is simply to illustrate the type of reasoning that is needed in using the organizational construct approach.

Before arriving at some tentative conclusions regarding this case, we must carefully examine our deductions in relation to other significant aspects of the construct. For example, our deductions about the change in leadership indicate that the new leader is faced with a problem of low morale and poor communications. Whether or not we accept these inferences will depend upon other aspects of the construct, such as the nature of the supervisory work force, the tradition of leadership in the organization, and so forth. If we find that the new leader reflects the old, or if the old leadership was ineffective and disliked, our inferences about the problems of the new leader will have to be modified.

Let us suppose that our first deductions are supported by the analysis of the other factors in the complex. We then have a clustering of inferences that supports the assumption that the plant is faced with problems dealing with morale and communications. If this is so, we accept these inferences as existing facts.

In a similar manner, we evaluate the other principal forces in the organizational construct. Moreover, the same type of reasoning is followed in suggesting corrective actions for dealing with operating problems. For example, if we were advising a new leader on the most suitable action to take in improving his organization, we would take into account a wide variety of factors: If we were dealing with a firm in a small rural community, we would hesitate to suggest firing key personnel or bringing in outsiders. We would recognize the close relationship between the life in the plant and that in the community as a whole. In contrast, if we were dealing with a plant in a large urban center, the role of the community would be considered in a different light.

In analyzing the organizational construct of a manufacturing unit, say a plant, a large number of areas must be considered. The following are a few of them: the goals of the organization; the formal structure; the relationship between ownership and control; the financial structure; the size of the operating unit; the size of the company to which this operating unit belongs; the existence of other plants in the company which perform similar functions; the location of the plant; the equipment and machinery used; the layout of equipment; the commonly held moral precepts of the society in which the plant operates; the plant's history and its traditions; the nature of the union, if one exists in the plant; the labor market; the ethnic backgrounds and characteristics of the labor force; the general level of economic activity; the legal framework of the society in which the plant exists; the demand for the product or products; the manner of distribution of the product or products; and the cost structure of the plant.

The above is by no means a complete list. However, it directs

attention to the variety of forces that must be considered if one is to understand how decisions are reached and carried out in the typical organization.

The Implications of the Organizational Construct Approach to Research and Teaching in the Field of Business Administration

If we accept the basic premise of the organization construct approach (that is, that to understand a functioning organization one must see it as a whole and see the interactions of its various parts as both determining and determined forces in that whole), a number of deductions follow with respect to the research that needs to be done and the manner in which business administration should be taught.

The implications to research: The research job that needs to be done is of monumental size. It involves bringing together into one or several volumes a systematic analysis of organizational constructs. Such a work would deal with: (1) the concept of organizational constructs; (2) analysis of the principal determinants of constructs; (3) analysis of the interactions of these determinants, and (4) case studies illustrating applications of the organizational construct approach to present day problems.

Such a work will require an interdisciplinary team of writers and researchers. In many areas it will be necessary to carry on basic research to give us a better understanding of the roles of the various determining forces and their interactions. In addition, it will require a considerable amount of rigorous scholarship in order to relate the existing literature to the organizational construct approach.

The implications to teaching business administration: The primary implication of the organizational construct approach to the teaching of business administration is that we must always relate the use of specific business techniques to the construct in which they are used if we are to understand how they function in actual practice. Happily, most curricula in business administration include courses which attempt to "integrate" the subject matter. The differences in course content that do exist appear to relate more to the means for attaining the goal of "integration" than with the goal itself.

One approach for teaching undergraduates that appears reasonable is first to focus the attention of the students upon the nature of going business concerns as functioning wholes.[8] The consideration of the different businesses would be at a fairly superficial level. Probably the method for achieving this goal would be to develop a number of motion pictures and supporting case materials that would give the students a feeling for the characters of a variety of businesses. What I have in mind are films produced primarily for use in the classroom. In them the personnel at various levels in the hierarchy of the organization that is being studied would be interviewed with respect to what they do, what they used to do, what happens in a typical day, what types of problems come up, and so forth. In addition, the market for the firm's products, the histories and traditions of the firm, and so forth would be discussed. During the school term, the beginning student would study several such cases. His attention would be focused on the general nature of

things done in each firm and the differences that existed between the cases. In this way, the emphasis in the first course would be on the general nature of organizational constructs. The course would serve to familiarize the students with the concept of constructs and the differences occurring among specific constructs as revealed by comparison of the case materials.

The second level of study would deal with the techniques and tools used by management. In teaching at this level, the emphasis would be on the logic underlying the specific tools and the ways in which they may be used in different constructs. Here the case materials would be taken from the cases studied in the first course. This would serve to reduce the amount of ephemeral detail the student has to learn in dealing with cases, and to reinforce his understanding of the nature of constructs and their implications to efficient management.

The top level course for the student working for the bachelor's degree would be one which required the student to study specific constructs. The course would be similar to the study of pathology. The students would be given cases to analyze. They would make their own diagnoses and prescribe the means for mitigating or solving problems. In many respects the course would be similar to the case courses now given in most schools of business. The major innovation would be that the student's earlier training would have focused his attention on organizational constructs--he will have been alerted to many of the tendencies (clues) evolving from the various forces in the construct. Furthermore, the cases would be more complete than those generally used. It should be added that a course such as I am describing will require the assembling of a volume dealing with typical functional roles of the various aspects of a construct as both determining and determined forces in an evolving organizational situation.

Conclusion

The above represents an approach to the study of functioning organizations. In final analysis it is neither new nor startling. But the fact of the matter is that much of the work being done in both teaching and in research has neglected the implications of the system of causality that determines an organization's character. Hence, it is hoped that this paper will stimulate discussion and research so that we shall eventually develop a general theory of organization that is inherently sound and at the same time of immense practicability in dealing with real world situations.

FOOTNOTES

1. In this article, we deal primarily with manufacturing organizations, but what is said is equally applicable as an approach to understanding other formal organizations such as churches, clubs, schools, and so forth. For our purpose we may define an organization as: a group of people in a cooperative task in which specific goals are given for the group as a whole. In its broadest sense an organization is any group of persons formally brought

together to work toward a common end or ends.

It is easier to describe than to define what we mean by an organization. The following may be considered its principal characteristics.

1. An organization is a formal grouping of people. We are not concerned with spontaneous informal groupings except as they occur within the framework of a formal organization.
2. An organization has fundamental needs or goals under which it unites people in interrelated tasks.
3. An organization involves deliberate and purposeful actions among men in order to maintain the cooperative system.
4. An organization is a social system. It has a formal structure that designates the superior and subordinate relationship.
5. Every relatively permanent organization has a body of doctrines and techniques. While these may, in a broad and general way, be common to other similar organizations, they also are to a certain extent unique and they give each organization a synthetic character of its own.
6. Every relatively permanent organization develops its own internal life which tends toward a closed system. The organization develops needs of its own that are separate and distinct from the overall goals. They deal with providing continuity in policy and leadership and the maintenance of continuous consent of the individuals who make up the organization as a whole.
7. In addition to its internal needs the organization has to adjust to a broader environment. It is subjected to a number of pressures from sources outside its immediate control.

In short, we describe an organization as a living thing: it has a concrete social environment, a formal structure, recognized goals, and a variety of needs. It is continually adjusting and changing to perpetuate itself and to achieve its overall goals.

2. A number of writers have attempted to describe this phenomenon. For example: Buchele calls it "Company Character"' and Bakke refers to it as a "small society." Robert Buchele, "Company Character and the Effectiveness of Personnel Management," Personnel, Jan., 1955, pp. 289-302, E. Wight Bakke, Bonds of Organization (New York, Harper and Brothers, 1950).

3. This observation has been noted by many. It is even suggested in early religious writings. For example, in summarizing the principles of Buddhism, Christmas Humphreys states: "But there is no such thing as two, for no two things can be conceived without their relationship, and this makes three..." Buddhism (Harmondsworth, Middlesex, England, Penguin Books, 1951), p. 16. See also: Edward H. Litchfield, "Notes on a General Theory of Administration," Administrative Science Quarterly, Vol. I, No. 1, June, 1956, page 10.

4. Actually this is the method of all science. As Einstein and Infeld point out, scientific enquiry is like a mystery story. Albert Einstein and Leopold Infelt, The Evolution of Physics, (New York, Simon and Schuster, 1938), Chapter I. In fact, the approach is well illustrated by that greatest of all writers of mystery stories, A. Conan Doyle, in his adventures of Sherlock Holmes. For example, Holmes explains his method to Doctor Watson by telling how he

deduced that Watson had recently come from Afghanistan. Watson states: You were told, no doubt, that I came from Afghanistan. Holmes replies: "Nothing of the sort. I knew you came from Afghanistan. From the long habit the train of thoughts ran so swiftly through my mind that I arrived at the conclusion without being conscious of intermediate steps. There were such steps, however the train of reasoning ran: Here is a gentleman of a medical type but with the air of a military man--clearly an army doctor, then. He has just come from the tropics, for his face is dark; and that is not the natural tint of his skin, for his wrists are fair. He has undergone hardship and sickness, as his haggard face says clearly. His left arm has been injured. He holds it in a stiff and unnatural manner. Where in the tropics could an English army doctor have seen such hardship and got his arm wounded? Clearly in Afghanistan!" A. Conan Doyle, "A Study in Scarlet," The Complete Sherlock Holmes (New York, The Literary Guild, 1936), page 14.

5. In the management literature there is scarcely anything written on the complications of changes in leadership. Most attention is focused on training executives and selecting executives. Yet my experience indicates that the best techniques of selection and training may be of little use if the actual succession is handled poorly. One excellent discussion of this subject appears in Alvin W. Gouldner's book, Patterns of Industrial Bureaucracy (Glencoe, Illinois, The Free Press, 1954), pp. 70-101. It appears that more attention is given to the matter in England. For example, see Rosemary Stewart, "Management Succession." The Manager, August 23, 1955, pages 579-82, and September 23, 1955, pp. 676-679. See also Cyril Sofer, "Reactions to Administrative Change: A Study of Staff Relations in Three British Hospitals," Human Relations (1955), pp. 291-316. Both of these studies were conducted by the Acton Society Trust in England.

6. This point has been emphasized by Perry Rohrer. See "Planning and Building an Organization," a panel discussion by Rex Reeder, Perry Rohrer, Neele Stearns, and W. N. Mitchell as abstracted by Joseph L. Massie, The Journal of Business, Papers and Proceedings of the Management Conference, April, 1954, page 30.

7. An area of research that should prove fruitful is that dealing with the changes in attitudes and actions of leaders as they move into a new construct.

8. Here again many curricula are set up to achieve this result. The major differences are in methods.

IS IT PRODUCTION "CONTROL"?

T. S. ISAACK

WEST VIRGINIA UNIVERSITY

The usual description of production control in basic management texts is somewhat misleading because it deals more with the synthesis of primary management functions of planning, organizing, and controlling than with control alone. Ordinarily, the subject of production control includes functions of routing, scheduling, dispatching, comparison, and correction.[1] When analyzed closely, one can apprehend that the control function alone is in the comparison and correction steps, while routing, scheduling, and dispatching are parts of the management functions of planning and organizing.

An examination of the production control functions of Ralph C. Davis will serve to demonstrate this point more clearly. Professor Davis was chosen because he seems to have a unified description of production control and because he feels that his eight functions of control have universal application and are not limited to production alone.[2]

The functions of production control as Davis envisages them are: routine planning (routing), scheduling, preparation, dispatching, direction, supervision, comparison, and corrective action. Close analysis of these functions discloses that routing, scheduling, and preparation are part of the planning function of management. This planning function of management deals with establishing goals; determining what should be done, and where and by whom; setting the timing for the action and the completion of various parts of the plans; and checking existing conditions in order to assure proper functioning of the plans, while keeping action within the limits of the organization's potential.

Dispatching, direction, and supervision are, in my opinion, part of the organizing function of mangement. In essence, they introduce an element of concreteness into organizational relationships regarding formal assignments of authority, responsibilities, and duties. This concreteness is spelled out in the plans for the particular performance which is expected of organizational units and individuals of these units. Changing potential authority to actual is central to the concept of dispatching. Potential authority arises from the formal organization structure, and release of plans through dispatching provides more specific descriptions and standards of the boundaries of authority and responsibilities which will govern the execution of plans. Direction and supervision also have their roots in organization because these are the exercise of authority to meet responsibilities and to achieve the goals of plans.

Comparison and corrective action may be looked upon as the heart of the control function. These two involve relating the actual performance to that which was planned and correcting deviations from the plan so that the proper degree of planned performance is realized.

It can be seen that control is dependent upon planning to establish a description of desired action and a standard for performance. Control also relies upon organizational relationships and resources which provide potential energy for completing plans. But to consider the whole management process of planning, organizing, and controlling as the function of control alone, defeats the purpose of refined thinking and prevents one from attaining a sound philosophy of management.

Philosophical neatness demands conceptual separation of the primary functions of management even though we realize that these functions are interdependent and flow into one another. It would be more appropriate to consider production control systems as descriptions of the entire management process applied to specialized activities instead of viewing production control as an example of the control function alone.

FOOTNOTES

1. Ralph C. Davis, Industrial Organization and Management, (New York, Harper and Brothers, 1940), pp. 257-290; L. P. Alford and H. R. Beatty, Principles of Industrial Management, (New York, Ronald Press Co., 1951), pp. 403-418.

2. Ralph C. Davis, The Fundamentals of Top Management, (New York, Harper and Brothers, Publishers, 1951), pp. 628-695.

DETERMINING RELATIVE DEGREES IN THE DELEGATION OF EXECUTIVE AUTHORITY

ALBERT K. WICKESBERG

UNIVERSITY OF MINNESOTA

Two components must be considered in any attempt to determine the relative amounts of delegation present in the performance of executive responsibilities. These are (1) the amount of freedom that the individual enjoys in arriving at a decision, and (2) the executive level at which that decision is made.

In establishing the amount of freedom applying to any given problem, several stages, or degrees, may be identified. The executive may exercise:

Degree

A--final rights of decision;

B--final rights of decision but within broad policy limits;

C--final rights of decision but must report action taken to his superior; and

D--final rights of decision only after consultation with or approval by his superior.

Additional refinements may be made in the above degrees, but it is believed that the four so stated comprise the essential differentials in restrictions which may be placed on an executive's decision making authority.

The second component that must be considered concerns the executive level at which such decisions are made. Here, five levels have been selected. They are:

1--the board of directors;

2--the president or his equivalent;

3--the executive vice president or his equivalent;

4--the divisional or subsidiary executive or his equivalent; and

5--the plant or regional executive or his equivalent.

The only major level omitted is that of the face-to-face supervisor. In larger organizations, additional levels may be identified between the division and plant and between the plant and the face-to-face managers. However, it is believed that the five levels cited are those which reveal most clearly the presence or absence of managerial decentralization.

In determining the degree of delegation present, one must consider both the executive level and the amount of freedom applicable to each decision made.

Generally, in comparing relative degrees of delegation among several companies, superior delegation of one over the other is signaled by either fewer restrictions at a given level or by a lower level at which a given amount of freedom is enjoyed. Such comparisons may be made by a variation of the paired comparisons technique. In this technique each degree symbol and the level at which it occurs, as reported by an organization, are compared with the degree symbol and level for the same decision as reported by every other company in the same size class, or even in other size classes.

Quantifying Degrees of Delegation

The task of comparison is made easier by quantifying the factors involved. This can be accomplished by adopting a rating scale. To this end, a scale has been devised that has been found useful in the making of such measurements. The following point values have been selected for each degree of freedom and for each executive level.

	Degree Symbol			
	A	B	C	D
Board of directors	0	0	0	0
President or equivalent	4	3	2	1
Executive vice president or equivalent	8	6	4	2
Divisional or subsidiary executive or equivalent	16	12	8	4
Plant or regional executive or equivalent	32	24	16	8

The scale thus recognizes the belief that the lower the executive level and the greater the freedom in decision making, the greater will be the degree of delegation present.

In assigning points, zero values are given to the board of directors, for the very nature of the board endows it with final authority: it is the initial delegating force within the organization. The scale also weights more heavily decisions delegated to the lower executive echelons, for it is here that a high degree of delegation is most readily revealed.

In applying the rating scale to specific statements made by companies, an equal number of responses for each decision item must be rated in each organization submitting replies for that item. Thus, the organization making the fewest number of responses to a given question determines the number of responses to be rated for that item submitted by all other companies. Also, the number of responses to be rated in each organization must be determined, starting with the lowest executive level for which a reply is received and moving consecutively upward in the executive hierarchy. This will clarify itself through the use of an example.

Suppose that Company X reports that the president is endowed with final

rights of authority (Degree Symbol A) and that the plant manager acts with final authority, but must report action taken to his superior (Degree Symbol C). In the same decision, however, Company Y reports only that the divisional executive acts within broad policy limits (Degree Symbol B). Company X has reported authority being exercised at two levels, Company Y only at one. Therefore, the reply of Company Y becomes the governing one, and the lowest level in each organization is the only one rated. The rating on the scale would be 16 points for Company X, and 12 points for Company Y. (See Case I below)

CASE I

Assigning Point Values to Reported Degree Symbols

	Company X		Company Y	
	Degree	Points	Degree	Points
Board	A	-		
President	A	-		
Executive Vice President				
Division			B	12
Plant	C	16		
Totals		16		12

Quantitative means are thus available to determine that a greater degree of delegation, for the item in question, exists in Company X.

Evaluating the Technique

The rating technique as presented is subject to several limitations. For example, the assumption is made that all organizations participating in the program interpret in identical fashion statements such as "final authority" and "final authority within broad policy limits." It further assumes that there is an actual difference between the degrees of authority in practice. Yet it may well be that indoctrination in a tightly controlled organization is so thorough that action, even though described as taking place within broad policy limits, actually ia very narrowly circumscribed. Also, it is assumed that the Degree Symbol D for the plant manager represents no greater and no less an amount of delegation than the Degree Symbol C for the division leader. This same numerical relationship in the schedule of points exists between the levels of (1) the executive vice president and the divisional executive, and (2) the president and the executive vice president where C and D degrees of authority are involved.

In defense of the scale, however, it should be pointed out that such an assignment of point values does give recognition to the fact that the decision is made at a lower executive level even though the freedom is more narrowly controlled.

The scale has been applied with good results in evaluating the relative degrees of delegation present in sample companies within the pulp and paper industry.

Once quantitative measurements are established, it becomes possible to employ more precisely the paired comparisons technique. By this means, it is possible to establish the number of times that the degree of delegation for a given organization (1) exceeds, (2) equals, or (3) is less than the degree of delegation recorded for other companies in the same and other size classifications.

Furthermore, once values have been established for the degree of delegation present for any given decision item, an additional refinement becomes possible, namely, the determination of a coefficient, or measure, of delegation. Maximum points, or par values, may be established for a given decision item. The number of points recorded by the company may then be compared with this par figure. The ratio between the two becomes the coefficient of delegation.

The Technique in Operation

In calculating the degree of authority exercised in determining long range manufacturing planning, such plans may be company-wide, division-wide, or plant-wide in application. By referring to the scale presented above, par values may be assigned according to the following schedule:

Company-wide decisions relate the activities of several divisions; therefore, the executive vice president is the lowest executive level at which such activities may be resolved, and the maximum points to be assigned from the table are 8. The lowest level at which divisional decisions may be accomplished is the division chief; the maximum points to be allowed for final authority at this level are 16. Similar reasoning for decisions that are plant-wide in application designates 32 points for this area. Points for this decision item total 56. If a company records a total of 30 points, as in Case II below, its coefficient of delegation, for this item alone, would be $\frac{30}{56}$, or .536.

CASE II

Authority for Long Range Manufacturing Planning

	Degree Symbol Reported	Points Assigned In Table	Maximum Points (Par, or Standard Value)
Company-wide plans by executive vice president	B	6	8
Division-wide plans by divisional leader	B	12	16
Plant-wide plans by divisional leader	B	12	32
		30	56

Similarly, selection of sources of supply where the application is also company-wide, division-wide, and plant-wide may be assigned a par value of 56. The same company, recording points totalling 48, as in Case III below, would have a coefficient of delegation of $\frac{48}{56}$, or .857.

CASE III

Authority in Selecting Sources of Supply

	Degree Symbol Reported	Points Assigned In Table	Maximum Points (Par, or Standard Value)
Company-wide usage by executive vice president	A	8	8
Division-wide usage by divisional leader	A	16	16
Plant-wide usage by plant leader	B	24	32
		48	56

The coefficient of delegation so determined not only indicates a greater degree of delegation in the selection of sources of supply but at the same time attaches a numerical value to the degree of difference. The example cited illustrates accepted managerial practice of reserving for upper executive echelons the authority to decide on long-range plans while activities of a more operational character may be more readily delegated to lower executive levels.

Thus, in interpreting the coefficient, the larger the numerical value, the greater is the degree of delegation present. At unity, the maximum amount of delegation consistent with good managerial practice is achieved. Amounts in excess of unity indicate delegation beyond what may be considered consistent with the existing organizational structure. This latter condition is likely to appear primarily in smaller organizations where organizational responsibilities are not always clearly defined and where a lower echelon executive may be charged with company-wide performance of a given function because of the firm's relatively limited scope of activity.

The apparent exactness of such a coefficient should not, however, be misinterpreted. The measure is of greatest value in relating existing degrees of delegation to what may be considered a satisfactory maximum. The coefficient does not attempt to determine whether a specific ratio is the desirable one for any given decision item or for any given organization. These are matters for individual business judgment. The measure does, however, represent a standard and deviations from this standard can be noted.

MANAGEMENT PHILOSOPHY: THE TIME DIMENSIONS OF PLANNING

PAUL M. DAUTEN, JR.

UNIVERSITY OF ILLINOIS

A careful examination of management literature, including recent well-known text books on the subject, reveals that we are not yet agreed upon a definition of planning. Planning is perhaps most typically described as the determination of what is to be achieved and how it is to be accomplished.

But one might advantageously define the planning aspect of managing more simply, yet more broadly, in terms merely of what is to be done. In this comprehensive sense, the notion of determining what is to be done includes not only the formulation and the clarification of objectives, but also that which must be done in detail in order to reach these purposes.[1]

Stated in another way, planning as thus conceived is synonymous with deciding what is to be done. And this is purely and simply the process of decision-making, much of which is a mental activity. As Billy Goetz has put it, "planning...[in one sense] is fundamentally choosing."[2]

In most types of problems it is advantageous to abstract for further consideration the broad, general aspects of such choosing or decision-making from the more detailed, supportive decisions, or sub-plans, which constitute a part of the total, overall plan. The sub-plans, too, can then be studied independently. It is similarly useful and indeed crucially important to consider conceptually the act of arriving at decisions in contradistinction to the act of putting such decisions into effect. Such pre-planning is implied in such expressions as "long-term planning" and "short-term planning" and in the caution "make your plans early."

If a person waits until the last minute to plan his affairs, the pressure of the event itself generally precludes careful deliberation and objective thinking. On the other hand, when a person pre-plans he, so to speak, "lifts" the planning for a particular event from the time period of its actual future occurrence and "pulls it back" to the present time,[3] some several seconds, minutes, hours, days, weeks, or even years earlier, depending on the problem-situation. Such pre-planning is usually tentative and flexible, and the pre-plans are typically at a later date revised, or at least reviewed.

But strictly speaking it is impossible to draw a sharp line between the thinking and the doing aspects of decision-making. This is particularly true of decisions that are made a managerial levels.

For example, in planning an after-dinner sales program, is the sales manager "thinking" or "doing" when he decides upon a certain speaker or in favor of a certain dining-room? While deliberating in a group meeting upon the question of the appropriate after-dinner speaker, is he "pre-planning," "planning," "deciding," or "doing" when a discussion with his colleagues results in the choice of a guest speaker whom they intend to contact immediately?

Again, if the selected man refuses, but suggests a more appropriate speaker, is the sales manager who is speaking to this first speaker-candidate "pre-planning," "planning," "re-planning," "deciding," or "doing" when he agrees, first, that the newly suggested speaker is indeed a "good" man and, second, that he will contact him by telephone immediately?* Clearly there is the customary intermingling and fusion of cause and effect. Even the implementing of decisions implies a current decision to implement now, thus emphasizing the artificiality of the separation of decision-making and putting a decision into effect. As a matter of fact, except for the time perspective that the planner has in mind--and this is admittedly a crucially important factor--there appears to be no other significant distinction between pre-planning, planning, re-planning, decision-making, or even putting decisions into effect.[4] Even arriving at a decision that will not yet be placed into effect is in itself a decision. Similarly, refraining from action is either a conscious or an inadvertent decision to allow things to develop without further control.

Planning is, in a broad sense, then, the determination of what is to be done. It includes, as a part of this concept, the matter of how, when, and where to reach these objectives. It also bears in mind detailed plans in regard to organizational matters, including the selection of personnel, policy-formulation at the various levels, and the structuring of the organization. Determining what is to be done further bears in mind such other well-known but ill-defined functions as motivating, evaluating, controlling, and new decision-making based upon feed-back of information. Thus, in its broadest sense, planning and the carrying out of plans is coequal with the notion of management. In fact, management is a plan-of-action-in-action, or decision-making-in-action. The caliber of such management may be good, bad, or indifferent.

Possibly the failure to recognize this fact of the all-inclusiveness of the notion of planning-in-action is the source of some of the existing confusion in management terminology and accounts for the fact that what some persons will respectively refer to as "setting objectives" and "detailed planning," others will call "planning" and "organizing," or even "planning" and "programming."[5] Perhaps the elimination of some of this confusion and progress toward eventual agreement in management terminology could be hastened if a revised, integrative classification were given consideration.

DEFINITIONS

The following tentative descriptions of the terms planning, action, "planaction," organizing, programming, coordinating, controlling, motivating, feed-back, and managing are presented in the hope that they will stimulate further discussion, and thus assist in the eventual solution of this complex conceptual and terminological problem.

---

*Viewed from another angle this decision is, of course, an act of organizing.

Planning

Planning is the part of management that implies thinking in terms of purposes, or goals, and in terms of how these goals will be accomplished. Planning is only one aspect of the term "planaction" as defined below. If the planning relates to future rather than to near-future or current activities, it might logically be called "pre-planning." Pre-planning and current planning are only conceptually separable.

Action

Action is the doing part of management. Action, too, is an aspect or conceptual part of planaction.

Planaction

Planaction is a contraction of the term plan-of-action-in-action. It is a synthesis of planning and action and recognizes that these two terms are only conceptually separable. Even thinking is in one sense an activity.

As a concept, planaction is synonymous with management; but it is not intended that the new term replace the word management. Instead, it might advantageously be used to supplement and clarify our conception of management as an activity. The advantage of the new word planaction is that it overtly stresses not only the task of human beings engaged in the act of thinking, or planning, in terms of purposes, or goals, but stresses also the action aspect. The word "management," although superior in some respects to the term planaction, stresses neither of these two notions.

It is important to observe (1) that human action--and hence planaction--is always carried out with the near or more remote future in mind;[6] (2) that such action results only from motivation; and (3) that planaction implies communication.[7] In fact, a manager's major tool is effective communication.

Planacting is what all managers do: it is, indeed, all that they do. As Frederick W. Taylor had correctly emphasized, scientific management consists very largely in planning and performance.[8]

Planaction involves the type of thinking that evaluates, or judges, activities in terms of goals to be accomplished, that is, in terms of clarifying total plans for the purpose, among others, of improving them. This is to say, planaction of itself implies control, and hence feed-back: Planning is controlled action where the broader and/or more basic plans, as well as the more detailed, specific plans are the criteria.[9] Management, or planaction, then, is, in broadest terms, continuous controlled decision-making, or choosing, for the purpose of achieving objectives. This process of decision-making serves also to clarify objectives. The planning and interpretive aspects of planaction not only tend to coalesce, they are, in fact, one and the same thing: Management is continuous problem-solving, continuous decision-making, continuous choosing.

A complex plan of action may require weeks and months of "pre-planacting" and "re-pre-planacting." The plan of action may be started as a whole,

or one part of it may be started at a time, while other parts of the plan are still to be implemented. Concurrent cycles of planning obviously go on at various levels within an organization, while parts of the total plan are already in operation. This is the multi-faceted nature of the single current activity we call managing.

Organizing

Organizing, too, consists of planning and action combined into one process of planaction. It is that aspect of planaction which combines men and other things in such a manner as to create an organ, or organization, that is capable of accomplishing changing objectives efficiently and effectively and which is simultaneously capable of being controlled in such a way as to reach the existing formulated and unformulated objectives. It is thus a means for achieving human objectives. One of these human objectives is to clarify objectives.

Clearly there is no basic difference between organizing and planacting: Organizing can be viewed as a syntax of broad and detailed plans for reaching and clarifying objectives. These plans emphasize the act of bringing together the people and the inanimate things which are a part of the planaction, while focusing carefully upon the "proper" relationships among them.[10] Yet even the most detailed planning is in a very real sense also organizing. And the most detailed organizing is in a very real sense also planning.

Organizing as a notion, as an aspect of the total planaction, is of crucial importance. But this is because it is in a very real sense coequal with all of the pre-planning, current planned action, and re-planning that is carried out for the purposes of achieving and clarifying objectives.

Organizing includes the familiar notions of structure and the delegation of authority and responsibility. It involves the use of money and credit. It implies coordination. The structural planning normally precedes (in time) the actual assigning of men and instruments for the carrying out of plans. But the pre-planning, the current activity, and the re-planning are all properly called either "planned action" or "organizing (to achieve objectives)". The process results in a newly envisioned planaction.

The only significant distinction, then, between planning, organizing, and controlling--when these terms are broadly conceived--is in the time relationship that the planner or organizer or controller has in mind. In fact, it might correctly be argued that not only can planning, planaction, and controlling be used interchangeably, but that pre-planacting, planacting, and re-planacting are all three aspects of the same thing: an act of planacting is at the same time an act of re-planacting, and it may also, at the same time, be an act of pre-planacting.[11] It is re-planacting in the sense that usually a new, different plan of action is now being pursued from that which was formerly engaged in. It may be pre-planacting if the manager is planning for the future as a part of his planaction. The current action and its perceived results, or feedback, in terms of achieving and clarifying goals will be useful in further pre-planacting.

As Mary Parker Follett has put the matter: "...the object[12] of organization

is control, or we might say that organization is control."[13]

Programming

Programming is that aspect of planaction which is responsible for the proper placing and timing of all action. It is the spatial-temporal dimension of the problem. Programming, too, is manifestly nothing but broad and detailed planning, or broad and detailed organizing, or broad and detailed controlling, however one chooses to look at the matter with respect to time. The purposes of planning, organizing, and controlling are not three, but one, namely, to accomplish plans.

Coordinating

The term coordination overlaps with programming. It includes, in addition to programming, the proper intermeshing of short and longer-range plans. It embraces also some or all of the notions of controlling, depending on how one prefers to look at the matter. In other words, it, too, is identical with planacting as a whole. Let us say that it is planacting with a co-ordering emphasis. Mooney and Reiley have suggested that "this term 'coordination' expresses the principles of organization in toto; nothing less."[14]

Controlling

Plans are seldom perfectly conceived; they are generally less perfectly executed. We tend to err in many ways: we may misapprehend, we may misjudge, we may miscalculate. Pre-plans, current plans, and re-plans must all be re-planned. Hence, controlling is synonymous with re-planacting. As a term re-planacting does not replace controlling but merely clarifies its nature. Controlling functions through a comparison of results with the latest pre-plans. The analysis of variances is a part of this process of re-planning.

But controlling is not only restrictive in nature. It has a positive aspect: as explained below, our broader objectives and our more specific goals control through their motivating power.

Motivating

The nature, or meaning, of motivating clarifies itself only upon reflection--motivating is synonymous with the planaction as a whole: The planaction as a whole, in other words, motivates, fails to motivate, or motivates negatively, depending on its meaning to individuals in terms of their goals. When we speak of motivating as an aspect of the total planaction, rather than as the planaction as a whole, we are doing so artificially in the sense that we are generally referring to such aspects of the total plan of action as imply a relatively intense degree of motivation. Motivating, including the process of reacting to motivations,[15] pervades the plan as a whole, including its ancillary aspects, and it is the plan as a whole that provides the motivational energy for its own execution, and for the manner or spirit in which it is done.[16] To be successful, it must contribute the optimum basic human satisfaction to all of the various groups associated with the business.

But each subordinate, supportive plan, or objective, too, is a goal and a motivating force at one and the same time. Subordinate plans, like master plans, must be structured, manned, programmed, controlled, and so on, and each of these subordinate plans as it unfolds becomes (is) an aspect, or a part, of the broader more-encompassing motivating force of some particular positive, zero, or negative intensity. The supporting plan is, at the moment of implementation, an organizational activity,[17] a lesser-scope planaction.

Feedback

The activity of feedback is of the same nature, but would, as an abstraction, consist of subordinate, or lesser-scope cycles of organizing, programming, and the like. These, when amplifying or attenuating the original plan, act as corrective forces and constitute the new planaction. Feeding-back consists of such things as re-organizing, re-programming, and re-feeding back(!). It is a lesser-scope cycle of re-planacting, which at the current instant merges with the existing planaction and becomes (is) the current planaction as a whole.

Managing Reconsidered

We are now in a position to re-define management, or planaction:

Management may be defined as the human process of (1) striving to formulate objectives at the conscious level, (2) striving to achieve them efficiently and effectively, and (3) as an important part of the process, striving to clarify and re-formulate these objectives. Striving to achieve objectives efficiently and effectively is, in turn, a means to the above three-fold process of managing. It consists of pre-organizing, organizing, and re-organizing. These latter three functions are more commonly referred to as planning, organizing, and controlling.

It is to be noted that the clarifying and re-formulating of basic objectives in itself represents a master control of the overall process of management in that the basic objectives are also the master criteria for controlling the process. Since all human beings strive to accomplish these things either consciously or intuitively, it follows that management is a universal purposeful and meaningful activity--we are all goal-seekers twenty-four hours of every day.

CONCLUSION

We conclude, then, that while it is useful and indeed important for some purposes to speak of planning, organizing, and controlling, it is advantageous also to be aware that these functions might be described as pre-planacting, planacting, and re-planacting, respectively,or, in a more specialized sense, as pre-organizing, organizing, and re-organizing. The specific "functional mix" engaged in by a manager at any moment depends not only upon whether he is

"planning," "organizing," or "controlling,"--and it is always all three simultaneously--but also upon whether he is pre-planacting, planacting, or re-planacting. One might say that the fundamental principle underlying all of management is planning. Planned action is the alpha and the omega of the entire process. Matters of "functional mix" relate either to timing, to emphasis, or to the important conceptual separation of planning from doing, but not to fundamentally different types of activity.

As one example, we know that it is generally useful to build flexibility into our plans. But such flexibility will refer not solely to planning, but also to organizing and controlling.

PRACTICAL ILLUSTRATION

Let us observe that our practical course of action in a typical business situation follows similar reasoning, especially in regard to motivating:

We as businessmen may decide to expand our operations. The entire expansion program is a plan, a course of action, which involves organizing, detailed programming, and the like. This involves much more than the mere erecting of a building and the installing of equipment. The total plan involves, among other things, considerable motivating. But it is important to observe that a portion of the motivating is that inspiration which contemplation of the perception of the completed project itself provides. This is why it is important to impart such plans and their intended meaning to the organization, if the plans are to be successfully accomplished. Eventual actual performance will never completely match the currently envisioned plan of action.

The same planaction looks different to various individuals who view it from their own vantage points within the business structure. Accordingly, the same planaction possesses differential motivational energy depending upon the individual's perception of how this plan assists him in his own personal pattern of goal seeking.

But any one individual's perception of the plan is not the whole of the motivating force since it is not the entire planaction. Similarly, the planaction of an organization, function, department, or division of a firm is not the entire planaction since there are other organizations and individuals in the firm who are planacting. Finally, for the same reason, any one company's planaction is not the entire community's planaction and, hence, it, too, is not the whole of the motivating force.[18] Every detailed component of the whole plan, such as, for example, motivating an individual worker, must be conceived as an interacting part of the total (integral) process.

It would seem that only with this sort of a frame of reference will management problems of a lesser scope acquire a more accurate meaning and therefore become soluble. Only with this point of view will we be in a position to judge discriminatingly what it means to motivate individuals and groups of individuals. Only with this integrative pattern of ideas will we be able to begin to understand what meaning our plans are likely to convey to the various groups associated with our businesses.

METAPHYSICAL IMPLICATIONS

Goals and sub-goals themselves are criteria. And qualitative and quantitative evaluations of these plans-of-action aid us in the process of decision-making. The decision here is to pursue a certain measurable, or at least judgable, course of action that will lead expeditiously to the accomplishment of "desirable" human objectives. Yet the means, or instruments, or immediate decisions, of themselves have value in that they prove satisfying or dissatisfying while they lead to (or possibly away from) longer-range objectives.[19] Planaction is, then, simultaneously (1) a means, or instrument, for reaching our objectives, (2) an instrument for clarifying and/or judging broader and lesser-scope goals, and (3) the very act of judgmental action in action. The phenomenon of planaction, or decision-making, is, in other words, the familiar means-ends chain.

Finally, the ultimate, basic, overall, or total objective of a business enterprise is to accomplish its ultimate, basic, overall, total objective! A business strives to do this. But striving is the seeking of ends, or objectives. Hence, from man's viewpoint, the ultimate objective of a business is: it is pure being, and, as such, is inseparable from other things. Planaction, too, since it is a striving for goals, is this same thing: Any seemingly individual planaction is only one aspect of the total, larger planaction of life itself, of everything. And a continuously changing psycho-physical planaction is its own end.

It is easy to reject such a framework of thought on the ground that it is too philosophical, too general, and too all-pervasive, and that it is therefore rather meaningless. Nothing could be further from the truth: The basic nature of management is general, philosophical, integrative, truth-seeking, evaluative. For this reason, any proposed schematic idea of a lesser scope, regardless of how airtight its structure, must fail before it is christened. If the ship of philosophic thought that management scholars strive to build is to be successfully launched, it must include, as a part of the whole process, the water in which the boat itself becomes (is) alive--man is not separate from his material environment: It is man's planaction.

The first task for management scholars is to clarify and structure managerial thinking in greater detail near the apex of abstractive thought, since the apexial abstraction, itself, is by definition completely non-descriptive, or non-specific. The remaining "rafters" of the theoretical structure can be fitted later--both by students of management and philosophy and by scholars exploring less-inclusive aspects of thought.

SUMMARY

In this paper we have shown that planning so pervades all of management that a "plan-of-action-in-action" is, in fact, synonymous with management and managing. We have suggested that it is advantageous to use, in addition to management, a new term "planaction" because it overtly stresses both the planning and action aspects of managing. Although the term planaction already implies

the notion of organization because it is only people who can think and hence engage in planacting, it is important to stress the organizing aspect of planacting. Organizing is the means for achieving our objectives. It consists of three aspects, or conceptual parts, namely, pre-organizing, organizing, and re-organizing. Controlling is re-planacting, which at the current moment is the planaction. Coordinating results from "good" planacting. Coordinating is a hybrid term, including not only aspects of programming, but also the integrating of short- and longer-range plans and even some aspects of controlling: coordinating is planacting with a co-ordering emphasis.

Motivating is in no sense a subordinate function of management. In fact, one cannot properly speak of functions of management--there are only aspects of one total function, namely, that of planacting. It is the planaction as a whole (including its parts) that motivates or fails to motivate. This plan of action represents a pattern of expectancies at the current moment for all of the individuals who have an interest in this plan. The perceived goal, namely, the planaction as a whole, is also its own criterion against which to measure results. The new results generally fall short of the newly envisioned planaction-as-a-whole. Planacting, then, is striving for the attainment of goal-criteria which motivate. This is to say, managing strives for goals. In turn, this is the same thing as saying that goal-seekers seek goals! The subject, the verb, and the predicate of this last sentence all imply goal-seeking!

Hence, at least from man's viewpoint, planaction is: it is pure "being"--people in any organization are seeking goals twenty-four hours a day. Since planaction, or management, is pure being, any one planaction is only one aspect of a larger planaction, of a larger everything. We must, in the writer's opinion, use such a comprehensive framework of thought if we are to clarify management's problem of planacting, especially as it relates to a more specific objective.

And this line of reasoning leads us to a final conclusion. If the essential difference between planning and controlling is one of time, then instantaneous adjustment to our plans is the unattainable ideal! Because there is necessarily a greater time span in planning the activities of the business as a whole than in planning the many lesser-scope projects, the accuracy of planacting tends to be more inexact at the more important top levels than at lower levels of operative management. This fact of a longer planning horizon points to the overriding importance of the function of the administrator in the managing process.

FOOTNOTES

1. There seems to be some confusion in terminology in connection with such ideas as objectives, purposes, and goals. Most psychologists use the term "goal" to refer to the more specific reward that an individual seeks in order to achieve his broader objectives and/or the reduction of psycho-physical tension. However, if a man is thirsty, water is not necessarily his goal--nor is a glass of beer. Any one of a number of "goals" would relieve his thirst. Strictly speaking, therefore, his objective and his goal are of the same nature: he seeks one thing, namely, to satisfy his thirst. That thirst-satisfaction is simultaneously a tensional problem does not alter the conclusion.

Accordingly, we shall use the terms objectives, purposes, and goals

interchangeably, except when the context indicates that one of these terms is a means to another one.

2. Billy E. Goetz, Management Planning and Control, (New York, McGraw-Hill Book Company, Inc., 1949), p. 2.

3. This way of looking at this problem was first brought to the writer's attention by Mr. Alex W. Rathe, business consultant, New York City.

4. The economist uses the terms ex-post and ex-ante for making the distinction between results and plans, respectively. Clearly these terms are mental constructs: only the present Janus-faced moment exists. Yet such terms are meaningful when discussing or "explaining" historical data, such as the problem of how one's plans of today, which are in essence a part of today's total results, lead to the plans which will eventually result "tomorrow." Time is in terms of the present--future and past ideas are only thoughts of the present. The present-present hardly exists: it is either past or future. Now is already gone. We plan from the past, in the present, for the future as viewed in the present. Planning is never done with only the present in mind, but with past and future plans in mind.

5. In this latter case, "planning" would be a broader, more inclusive term than "setting objectives" and "programming" a less-inclusive term than "detailed planning."

6. Hence a pre-planaction is a plan of action "twice removed insofar as time is concerned": the action is eventually carried out with the future in mind whereas the pre-planaction is carried out with the intended action in mind.

7. Communication is used here in its broadest sense of consciously and unconsciously absorbing and imparting ideas, notions, and facts that carry unconscious or conscious meaning. Communication in this broadest sense is, from man's viewpoint, everything.

8. Cf., for example, The Principles of Scientific Management, (New York, Harper and Brothers Publishers, 1915), p. 39. Taylor rightly emphasized that it is important conceptually to separate planning from performance.

9. Thus profit goals and the desired level of morale are in themselves simultaneously goals and criteria and the current profit figure and the current level of morale are in themselves feedback!

10. Alvin Brown suggests that "organization is broadly defined as 'the state or manner of being arranged or constituted in interdependent parts, each having a special function, act, office, or relation with respect to the whole.'"

This same author suggests that "organization, as here viewed, may now be more exactly defined as a process which, by differentiation in individual endeavors, serves as a means to more effective concerted endeavor. Organization defines the part which each member of an enterprise is expected to perform and the relations between such members, to the end that their concerted endeavor shall be most effective for the purpose of the enterprise.

"Thus organization is a means to a means. It is removed from purpose by two stages of thought process." Organization, A Formulation of Principle, (New York, Hibbert Printing Company, 1945), pp. 3 and 6.

11. As an analogy, let us assume that, as a part of managing his own affairs, a person who is on his way home decides to take a short cut by walking diagonally across an open field of grass. Let us further assume that it has recently rained and that the grass is still soggy. As this person takes each step he looks ahead and decides anew whether to continue or whether to retreat and forget about taking the shorter way home: with each step there is also a feedback of information, which assures him that he may continue, convinces him that he had better turn back, or leaves him in a doubtful situation, which suggests that further testing is desirable before he should decide either to go forward or to turn back--the whole process is one of continuous controlled decision-making, or planacting. Equally important, the process is simultaneously pre-planacting, planacting, and re-planacting.

12. Italics not in original.

13. "The Process of Control," in Gulick & Urwick, Papers on the Science of Administration, (New York, Institute of Public Administration, 1937), p. 161.

14. Onward Industry, (New York, Harper and Brothers Publishers, 1931), p. 19.

15. It must not be overlooked that one of the ways in which a person reacts to motivation is by thinking. Any response to motivating, including thinking, will result in further positive, negative, or neutral motivation.

16. It is to be observed that a manager must not only motivate others: he, too, must be motivated.

17. Sometimes this organization consists of only one man who is thinking and/or acting.

18. Consider, for example, a boat laden with merchandise and sailing to the Suez Canal for eventual unloading at some predetermined destination. Should war break out, the captain of the ship may, for national defense and personal safety reasons, abruptly alter his course: The original aspect of the total planaction is subordinate to a more basic, larger-scope planaction or motivation which is governed (motivated) by human goals of a personal and communal character. Such human goals, even in this example, remain as the only motivating force and are the raison d'etre of the entire planaction.

19. For example, a skilled machinist's work in shaping a piece of metal is a means, or instrument, that leads to other ends: the piece will become part of a larger assembly, which, in turn, will become a part of a finished product directed toward the satisfaction of human wants. Yet the machinist's work in itself is satisfying or dissatisfying: there are ends in the means.

THE CASE STUDY METHOD AND THE ESTABLISHMENT OF STANDARDS OF EFFICIENCY

PRESTON P. LEBRETON

LOUISIANA STATE UNIVERSITY

One of the most difficult problems encountered by a student in most courses taught by the case method is that of diagnosing the level of efficiency of the company under consideration. This is particularly true when each new case considers a different industry and the problems encountered relate to all or most of the major functions of a business enterprise. Not infrequently, one student points to a particular practice as an indication of poor management while another student uses the same information to suggest that management is doing a good job. The conflict occurs, of course, because the students are using different standards. What is a good span of control? What is a satisfactory return on investment? What is excessive labor turnover? When are administrative and selling expenses out of line? What is the proper pricing policy? What should be the composition of the board of directors? What is adequate working capital? These are some of the problems which must be faced repeatedly.

It is generally recognized that management principles have broad applicability to many diverse lines of business activity. It is equally true that each industry has problems peculiar to itself. The student must be able to decide what standards he will use to measure the performance of every major activity of each new enterprise.

One approach that has been found useful in helping the student is to require that he develop a set of standards, for each new industry studied, that could be used in measuring the efficiency of the particular firm under consideration. The student is encouraged to use any reference source he wishes, including interviews with local managers. Ordinarily, written references, such as Dun and Bradstreet financial reports and government publications, would be consulted. It will also be helpful for the student to familiarize himself with the general methods of company appraisal employed by the American Institute of Management. Standards are usually developed only for possible problem areas occurring within the case at hand. The student makes this decision on his own. Usually, of course, such areas as management, marketing, finance, production, personnel, and organization are investigated.

A second phase of this assignment is the requirement that, for each new industry studied, a statement or two be made regarding the factors which seem to be paramount in determining success in this industry. For example, in some firms, merchandising is the crucial point, while in others engineering deserves emphasis.

Several purposes are served by the above assignment. Before a student begins to evaluate a case, it is assumed that he has become thoroughly familiar

with the industry under study and has established a frame of reference for measuring the efficiency of the enterprise. There are times when he need not expand upon the text material.

By the end of the semester the student should realize that while many standards are peculiar to an industry and appropriate to a point of time, some standards are applicable to several industries and remain unchanged over rather long periods of time. Similarly, he is able to see in proper perspective the similarity and dissimilarity of management problems between industries.

EXECUTIVE DECISION MAKING

RICHARD N. SCHMIDT

UNIVERSITY OF BUFFALO

Introduction

Executives have, as part of their problem solving activities, the responsibility of making decisions.[1] This applies not only to top executives but also to management personnel at the several echelons of authority. Furthermore, the ideas on decision making apply equally well to vendors, customers, and competitors. Each is faced with the problem of selecting from various alternatives in order to arrive at a decision in solving his problems. All decisions, routine or non-routine, are important when the profitability of the company and satisfaction of the customer are concerned. All decisions at all levels of importance are significant in the growth and development of the firm and its management personnel.

The purpose of this paper is to explore some of the elements of decision making that are common to all decisions.[2] The emphasis will be on decision making from the point of view of top management, although what is said is generally applicable to all decisions.

Business Problems

The life cycle of the typical firm is marked by a series of problems. The question is: Why do problems arise? The answer lies in that all businesses are in some stage of growth. Growth implies positive, zero, or negative change, either absolutely or relatively, or both. But growth is not automatic nor routine and because of this, problems arise and decisions must be made.

Consider, for example, the case of a company which has grown for several years. Suddenly the president realizes that his warehouse is in one part of the city, his office is in another part of the city, his factory is in a crowded area, and his product development staff is in still another place. He decides that "something must be done about it." But a decision is not easy. Exactly what is to be done? Build? Rent? At what location? What about cost? And what about business conditions? What kinds of buildings? Should the product line be revised at the same time? What will the market repercussions be? These are only a few of the many problems that must be considered. Through the array of questions runs the thread of uncertainty. The role of expectations and uncertainty in business is important not only for the business itself but also for the entire economy, because negative expectations and pessimistic prognoses can have cumulative effects which extend well beyond the business itself.

Thus it is that the executive is constantly faced by problems that he must solve. This is not easy, however, because of the many variables and alternatives. Because he does not have complete knowledge of the future, there is

always some uncertainty as to the outcome of the various alternatives. [3]

The purpose of the business report is not to present masses of data, but to present the executive with the minimum of data necessary to have sufficient information for making a sound decision in light of the best supporting evidence available at the time the decision is made. Fortunately, in business, as in the physical world, it has been found that a small number of variables often explains most of the variation that occurs.

For example, the amount of solder taken up by a piece of plated copper is dependent upon the temperature of the metal, the composition of the metal, the air pressure, the height of the solder in the container, the size and shape of the copper, the amount of shaking, the kind of shaking, and the length of time of the dip. Perhaps fewer than four of these independent variables would explain as much as ninety-five per cent of the variation that occurs in the amount of solder used.

In another case, a business problem might concern sales. Sales vary because of population size, nationality groups, income levels, competition, sales effort, urbanization, education, and age distribution. Again, perhaps fewer than four of these variables would explain as much as ninety-five per cent of the variation that occurs in sales. The important point is that it has been demonstrated many times that whether a social phenomenon or a physical phenomenon is being studied, a few independent variables explain most of the variation that occurs in the dependent variable.

The problem is to select such independent variables as explain the variation in the dependent variable. If the universe is one over which the decision maker has control, stable relations will allow for high reliability of prediction. This is the case with most physical phenomena. In the case of social phenomena, the decision maker does not have control over the variables, and thus the reliance placed on predictions rests upon the stability of the universe over the period of prediction. [4]

Types of Executive Decisions

There are many types of executive decisions: There are policy decisions, such as whether inventory speculation will be permitted or whether all hedging precautions will be followed. There are basic product decisions as to the level of product quality, that is, the segment of the market to be tapped. There are basic process decisions to be made, for example, whether machinery or direct labor is to be used. In addition, there are many other routine and non-routine decisions that must be made by some one. Regardless of the magnitude and effect of the problems and decisions, whether they be as routine as the decision to sharpen a pencil or as non-routine as the decision to buy or sell an entire division of the business, there are certain elements of decision making that permeate all management action.

Asset Structure and Business Problems

The figure on page 40 provides a graphic representation of the discussion

which follows. Assume a company which is representative of a dynamic industry. As such it has a given asset structure and a general asset preference structure. For our purposes these may be assumed to be part of the business personality of the chief executive. In a given static state in the mind of the top executive, there would be no significant difference between the actual asset structure and the preferred asset structure.[5] It is not unreasonable to assume that in a growing and dynamic industrial economy there tends to be a series of significant variations between the actual and the preferred asset structures. These variations become the pressure for growth; and growth, as it was stressed above, produces problems. For the sake of distinguishing among the various kinds of problems, assume that non-significant variations between the actual and the preferred asset structures give rise to clerical problems that are solved in the lower echelons of the firm in a routine manner, and that significant variations give rise to executive problems that require a conscious effort on the part of an executive before a decision is made.

Executive problems typically call for calculated decisions.[6] The rational executive bases his decision on the weight of evidence. When a problem arises, therefore, the executive requests a report of the evidence to aid him in making the decision. Problems may occur gradually or they may occur suddenly. For example, suppose there is a firm manufacturing an item for which the market is gradually disappearing. The asset position at the end of one month may not be greatly different from that of the preceding month. But after a few months of observing a definite downward trend, the chief executive realizes that "something is wrong." On the other hand, consider the case where the actual and desired asset structures are identical and do not change significantly over the years. Suppose that one day the chief executive hires an assistant to provide for continuity of life for the firm when he retires. The preferred asset structure could change suddenly and considerably after the hiring of the assistant.

Irrespective of how or when problems arise, there are certain hypotheses that are formulated in the mind of the executive. The report containing the results of experiments, surveys, and other elements of statistical investigation will either support or fail to support the hypotheses. The report will not--in fact no report can--provide evidence which would unconditionally support or unconditionally reject a hypothesis. The evidence, inasmuch as there is an attempt to generalize from sample data, must be stated in terms of probabilities. The thing that perplexes the executive is that there is always uncertainty among his various alternatives. There is no absolute guarantee that if he selects the alternative with the highest probability of success that his decision will be the correct one. It is possible that the alternative which has the smallest a priori probability for success could actually be the best one. The executive is always in the position of predicting the future when he makes his decision. The paradox is that he cannot predict with certainty. Nevertheless, in light of the best evidence available, a hypothesis must be accepted or rejected if a decision is to be made. This is to say, the evidence will aid in a prediction as to the probable outcome of taking or not taking positive action. The assumption is that the proposal is rational. Thus the hypothesis

will always be positive, that is, it will affect the asset or capital structure favorably, if true. The hypothesis may or may not be true, but if the hypothesis is positive in the sense of an anticipated favorable effect, then the decision to take action or not will be based on the degree of confidence or the extent of uncertainty as to the outcome of the action. It is assumed further that the behavior of the executive will be in harmony with the stimulus provided by the evidence. Thus it may happen that, in the light of the best evidence, there is sufficient confidence to take action. The real truth or falsity of the hypothesis is, however, independent of the action taken. For example, despite a high a priori probability of a successful outcome, based on the sample evidence, the hypothesis upon which the executive's decision is based may have, in fact, been false.

MANAGEMENT ALTERNATIVES

Fundamentally, for each problem there are four basic possibilities for the outcome, all of which are mutually exclusive and no one of which is certain. They are:

(1) The hypothesis is true and positive action is taken.

(2) The hypothesis is true and non-positive action is taken.

(3) The hypothesis is false and non-positive action is taken.

(4) The hypothesis is false and positive action is taken.

Turning to the figure it is noted that there are four quadrants. Each of these quadrants represents one of the four combinations. The Proteus-like* area represents what might be termed the "decision area." In this area are all possibilities for the decision. Because the area itself is an abstract idea, it is not possible to ascribe values to the scales. What must be considered is that each executive is subject to certain boundary restrictions in making the decision--or any decision for that matter.

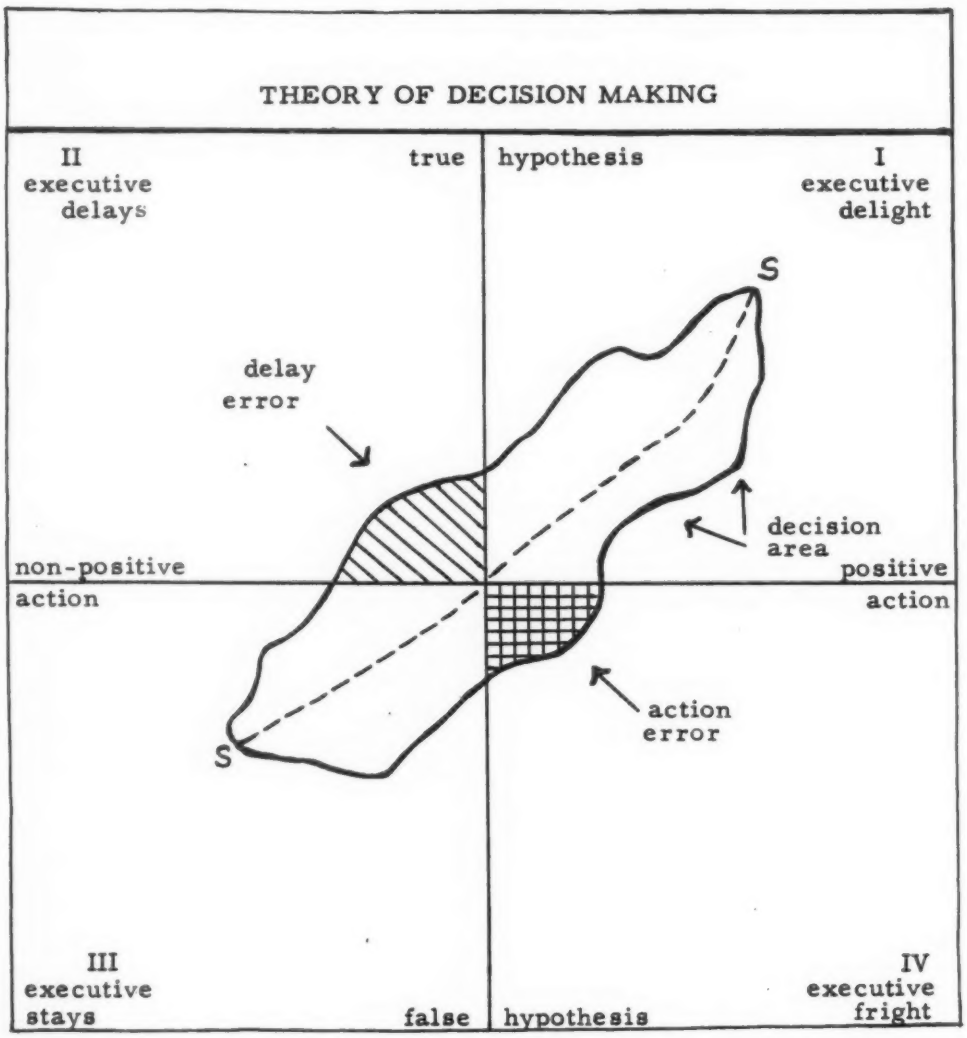
In the figure the line SS represents the line of optimum success. It cannot be stated here how flexibility--that is, provision for multifold alternative decisions--may be built into the model. Nor is it possible to state precisely what the line represents or to define the dimensions in which it exists. It is sufficient to state that few will deny that there are degrees of success for every decision depending on the system of hedging, the insurance coverage, and the degree of flexibility that has been built into the decision. How all of these elements are measured is a complex problem and will not be undertaken here.

Quadrant I--Executive Delight

In Quadrant I is a combination of a true hypothesis and positive action. This area may be considered to be the area of "executive delight." Consider

*Proteus was a prophetic sea-god of Greek mythology. When seized, he would assume different shapes.

the decision of General Motors to invest $1 billion. The executives have examined the evidence and have decided that the investment will prove to be profitable. Otherwise the decision to invest would be an irrational one. General Motors executives have made a hypothesis of profitability. The evidence has indicated that future markets would be large and they have taken positive action by investing this large sum of money. The hypothesis does not necessarily determine the action. The hypothesis could have been that the investment would be profitable, the evidence could have been favorable, and yet the decision to start the investment could have been tabled "to see how the market develops." Actually, it will take some time to determine whether the prediction was or was not true. At present no person, not even the president of General Motors, knows the answer. All that is known is that positive action has been taken in view of a high probability for long run profitability of the investment. If the investment turns out to be profitable, the executives responsible for the decision will be delighted--and probably rewarded for their sound judgment.



Quadrant II--Executive Delays

The area in this quadrant represents a combination of a true hypothesis but no positive action. Some people point to the Sears-Roebuck versus Montgomery Ward competition as an example of the area in this quadrant. To Sears-Roebuck the evidence since about 1945 must have appeared favorable for investment. The executives took positive action and up to the present there has been "executive delight" because the investment has been profitable. The executives in Montgomery Ward presumably had access to the same type of data. Let us assume that they formulated the same hypothesis of investment profitability. Yet the decision to take investment action appears to have been delayed by the top executives, perhaps in order "to see how the market develops." Assuming that the hypothesis of profitable investment is true, which it apparently has been up to the present, the delaying of the proposal to invest appears thus far to have been a mistake for Montgomery Ward. Even though the hypothesis of profitability was true, there was only non-positive action. The area in this second quadrant may be termed the area of "executive delay." This is known as the delay error. In certain problems, under certain conditions, the statistician is able to measure the error. By and large, in executive decision problems, the error cannot be measured with precision.

Quadrant III--Executive Stays

In the third quadrant is found the area representing a combination of a false hypothesis and non-positive action. Here, of course, as in the case of Quadrant I, there is a happy combination. The data indicate a low probability for the truth of the hypothesis and no positive action is taken. If the hypothesis is actually false, it is desirable to reject it.

As an example, suppose an executive has the problem of determining whether or not to enter a certain market. The executive has the feeling that he should enter the market. Some of his staff argue against this course of action. A consulting statistician is given the task of determining whether the hypothesis of profitability is or is not tenable. Suppose that the data do not support the hypothesis of profitability. If the executive decides to table the proposal to enter the market and if the hypothesis actually is false, the company has profited in that there have been no losses due to a poor decision to enter a poor market. This may be called the area of "executive stays." Although it is a profitable area, there is no executive delight because of the difficulty of ascribing success to non-action. At the same time it is difficult to ascribe failure to non-action, so the "executive stays." A baseball analogy may serve to point up the difference between the "executive delight" and the "executive stays" areas. Both are desirable areas, but Quadrant I provides delight while Quadrant III usually produces only mild satisfaction. For example, a batter in a ball game may swing his bat at the ball or he may merely watch and wait. If he swings, that is, takes positive action, he may get a hit; a hit in baseball is delightful for him. If he delays and does not swing, he may obtain a walk. A walk is satisfactory because it does not result in "losses," but a good hit is delightful because it could be a home run and thus increase "profits."

Quadrant IV--Executive Fright

In the fourth quadrant there is a combination of a false hypothesis and positive action. Suppose, for example, a problem of copper shortage arises in a company manufacturing automobile radiators. Suppose a hypothesis is made that a steel radiator could be marketed profitably by the company. Without doubt an extensive statistical study would be made and a report on the findings might be submitted stating the probability for success of the new radiator. Again, regardless of the probability, either positive or non-positive action may be decided upon. Suppose, in the light of the best evidence available, the probability is high for success. If the hypothesis is true, the decision will result in profits. Assume, however, despite a high a priori probability for success, the hypothesis actually is false, that is, unforeseen adverse variables were the main determinants. The company would lose money if it took action. Because this type of situation--false hypothesis and positive action--can be isolated and assigned to the decision maker as an unwise move on his part and because there can be serious and immediate consequences and repercussions, this area may be termed the area of "executive fright." This error is known as the action error. Although the magnitude of this error in terms of costs can be roughly estimated, it, unfortunately, can seldom, if ever, be accurately measured in business. Yet it has a profound effect on the actions of management. Suppose a marketing executive feels that a new product or an innovation in marketing would be highly profitable to the company. The large number of previous ideas and products which have failed might induce him to refrain from taking action. If he does take action and the venture fails, the action error may be assigned to him and he may lose control of his position. If he delays action, profits may still be satisfactory and his position still secure.

Implications

For a given management decision the aim should be to be in Quadrant I or III. No executive will fail to recognize and admit this statement. The thing that causes fright is the possibility of being in Quadrant IV, although being in Quadrant II may be no less serious. One of the problems in business is that of getting executives to make the decision to make a decision. Because positive action results in an error when the hypothesis is false, and because this error can be traced and assigned to the executive making the decision, and because the cost of the error can often be estimated, executives sometimes take refuge in inactivity and refuse to make decisions. It is true that this results in a delay error, but it is more difficult to recognize this type of error, to measure the cost of the error, and to assign it to some executive. The shelter of non-positive action is one of the great impediments to progress in management. Which of the two errors is the more important depends entirely on the circumstances of the problem. Because of the fear that executives have for the action error, it appears, subjectively at least, that the action error often has the more serious implications for long, sound business growth and improvement of competitive position. Yet the delay error can in many circumstances be equally as serious or even more serious.

Coupled with this difficulty is the problem statisticians have when they

present evidence: Statisticians recognize that decision making involves the notion of probabilities. They also know that there can be both action and delay errors. No known method of analysis can overcome the making of errors. Decisions and actions sometimes turn out poorly. The probability-measures employed by the statistician are an expression of these uncertainties.

Part of the difficulty is due to the fact that the variables that are the main determinants of business fortunes often lie beyond the control of management. Another part of the difficulty is due to the time and money pressures under which the statistician often must work. Major decisions call for good samples. But reliable statistical research takes time and money. Time and money are usually in limited supply. Consequently, the statistician is often forced to resort to rough and ready methods, which, although they are economical for many problems, fail to give satisfactory results in other situations. One bright note which should be mentioned here is that the advent of the electronic computer is making it possible for executives to obtain more prompt and highly refined solutions to many kinds of control problems.[7]

In addition, if the universe in which management makes decisions were structured by variables over which control could be exercised, highly reliable predictions would be possible and both types of errors could be reduced. But in the executive universe there is not only a lack of control over variables, but executives cannot always determine what the important variables are nor how they behave. Nevertheless, a systematic study of the relevant variables is necessary in most decision problems.

Summary

The aspects of decision making which are presented in this paper are probably not new to management. The attempt is to formalize some of the existing thinking into a simple model which includes both the delay error and the action error.

To minimize these two errors, management must employ statistical methods insofar as possible to supplement the other types of decision making information already at its disposal. A conscious use of the theory of decision making presented herein should enable managers to minimize delay and action errors.

FOOTNOTES

1. See Chester I. Barnard, The Functions of the Executive, (Cambridge, Mass., Harvard University Press, 1950), especially p. 21.

2. For a mathematical treatment of decision making see Abraham Wald, Statistical Decision Function, (New York, John Wiley and Sons, Inc., 1947).

3. An interesting treatment of this point may be found in G. L. S. Shackle, Expectations in Economics, (Cambridge, Mass., The University Press, 1949).

4. For further discussion of this type of reasoning see Donald R. G. Cowan, Sales Analysis from the Management Standpoint, (Chicago, The University of Chicago Press, 1938.)

5. The first systematic treatment of the firm from the point of view of the balance sheet is Kenneth E. Boulding, A Reconstruction of Economics, (New York, John Wiley and Sons, Inc., 1950.)

6. For a fuller non-technical coverage, read Irwin D. F. Bross, Design for Decision, (New York, The Macmillan Company, 1953.)

7. For an excellent discussion of this new tool see Richard G. Canning, Electronic Data and Processing for Business and Industry, (New York, John Wiley & Sons, Inc., 1957.)

A PRELIMINARY STATEMENT OF PRINCIPLES OF PLANNING AND CONTROL

HAROLD KOONTZ*

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Although this paper attempts to deal in a preliminary fashion only with a portion of the theory of management, it is essentially a plea for more attention to fundamentals in management, to principles, to theory, and to a conceptual framework upon which we can develop the systematized knowledge which is necessary if we are to constitute a science of management. As such, it may appear to be an oversimplification of an extraordinarily complex process.

THE ROLE OF PRINCIPLES

While the need for improving management is widely recognized and a considerable amount of inquiry, analysis, and training of managers is being undertaken in all kinds of enterprise, there is a question in my mind as to whether enough attention has been given to the development of a conceptual framework of principles from which to approach this important problem. Sometimes it appears that much of the research being undertaken and much of the effort to train managers have been proceeding from the questionable premise that exchange of experience and emphasis on technique are adequate means for attacking the problem.

This is not to deny the importance of analyzing experience through case study or research or passing on to managers lessons in "how-to-do-it." However, it seems that greater progress could be made if more attention were paid to the development of a conceptual scheme of management in all its aspects. By so doing and by formulating principles which explain the related fundamentals of management, we not only could have something which could have a predictive value in the varying circumstances which the manager faces, but research in management could also be better oriented and consequently far more productive than has to date been the case.

That the need for a concept of management and for a framework of related principles have been recognized for some time is evident by the comments of such practical scholars of management as Henri Fayol, Chester Barnard, and Alvin Brown. In his great classic published originally in 1916, Fayol bemoaned the lack of management teaching in vocational schools, but ascribed this to a lack of theory, since, as he said, "without theory no

---

* The author expresses his indebtedness to Dean Neil H. Jacoby and Dr. Lewis C. Sorrell of the University of California, Los Angeles, for penetrating criticism and suggestion in the preparation of this paper.

This paper was originally presented, in substantially the same form, before the membership of the Academy of Management, at its annual meeting in Cleveland, Ohio on December 28, 1956.

teaching is possible."[1] Likewise Barnard deplored the lack of literature and instruction for executives, and, above all, the lack of "an accepted conceptual scheme with which to exchange their thought."[2] The importance of principles in understanding and developing the art of management was well understood by Alvin Brown, who held that, for the greatest effectiveness, "study must be grounded in principle."[3] And Talcott Parsons incisively put the role of theory in the right perspective when he said:

> "It is scarcely too much to say that the most important index of the state of maturity of a science is the state of its systematic theory. This includes the character of the general conceptual scheme in use in the field, the kinds and degrees of logical integration of the different elements which make it up, and the ways in which it is actually used in empirical research."[4]

In the field of management, then, what is needed is groupings of interrelated principles--theory if you will--dealing with the various aspects of the managerial job. Some of the principles which comprise a theory of management can be readily recognized from the observation of management experience; others may be offered as hypotheses subject to verification; and still others will be discovered and codified as the analysis of the management process continues. But unless these principles are clearly related to the job of management--hung logically and in an orderly fashion on the tree of managerial knowledge--their true import cannot be comprehended, their usefulness in practice is restricted, and their help in providing a guiding light for research is limited.

As can readily be seen, principles and art are not mutually exclusive fields of endeavor. As principles are discovered, verified, and applied in solving problems, they become the working rules of an art. While management will always be an art and will perhaps always be comprised largely of know-how, improvement of the art of management and removal of many of the uncertainties in this complex area of almost incomprehensible variables will depend heavily on the discovery, codification, and verification of principles.

Principles describe the nature of the managerial job, crystallize the purpose of management, and act as a kind of checklist for the manager to follow in applying the art of management. In so doing, they furnish the basis for seeing the manager's job as a whole and become the cornerstones upon which the training of managers can be undertaken.

In addition, principles increase managerial efficiency. There is probably no more complex a task with as great a number of constantly changing variables than that of the manager. The kinds of decisions which managers make each day and the complexity of the elements which affect these decisions make nuclear physics seem simple in comparison, as is indicated by the fact that problems of nuclear physics can be largely solved by a kind of advanced mathematics which is inadequate for solving most managerial problems. The application of fundamental truths to the job of managing gives help in avoiding chance decisions, often makes unnecessary much laborious research, and leads to the solution of many managerial problems. This is because most managerial problems have recurring elements which yield to the application of principles.

NEGLECTED AREAS IN THE THEORY OF MANAGEMENT

In attempting to develop a theory of management, it has seemed to me that the first conceptual framework on which to hang a system of principles results from dividing the managerial job into those functions peculiar to managership. Although this has been done by many persons who have approached the task of management and although there are a number of ways of classifying these functions, I have preferred to look upon this job of getting things done through people as involving five basic functions, functions which are different from those of the engineer, accountant, personnel expert, production specialist, or machinist. These five functions are:

1. Planning--the selection, from among alternatives, of enterprise objectives, policies, procedures, and programs.

2. Organizing--the grouping of activities necessary for accomplishing enterprise purpose, the assignment of these activity groupings to managers with the necessary authority for undertaking them, and the establishment of authority relationships horizontally and vertically in the structure to assure the degree and kind of coordination desired.

3. Staffing--the selection and training of subordinates.

4. Directing--the overseeing of subordinates in the undertaking of their assigned duties.

5. Controlling--the measurement and correction of activities of subordinates to make certain that plans are transformed into action.

Mere reference to the functions of the manager discloses areas where great progress in the formulation of principles has occurred and areas where almost no attention has been paid to the development of an interrelated group of significant basic truths. Unquestionably the most mature area of management theory is that of organization. The basic principles of formal organization, the principles of authority delegation, and the principles of groupings of activity have all been so well recognized and explained that most research and practice in organizational matters show a clear awareness of theoretical implications. This probably accounts, also, for the fact that organization seems to me to be a management area in which most practitioners do relatively well. Yet, one does not have to look far to find serious deficiencies which arise from a lack of understanding and/or use of these principles of organization.

While considerable research, evaluation of knowledge, communication of techniques, and exchange of case experience are being undertaken in the fields of staffing, directing, planning, and controlling, there has been little effort to develop theories applicable to them. To be sure, a number of profound inquiries have been made in these areas, many basic truths have been highlighted, and great contributions have been made, but the resulting knowledge lacks the consistency and codification found in the area of organization. In other words, while many, if not most of the principles of staffing,

directing, planning, and controlling have been recognized by such scholars as Barnard, Billy Goetz, Albert Hart, Mary Niles, Herbert Simon, Joel Dean, and others, these principles seem to lack the clear conceptual framework found in the treatment of organization.

THE NATURE OF PLANNING AND CONTROL

All functions of the manager are interrelated, and it is sometimes difficult to ascertain in practice where one function ends and another begins. It is also clearly true that the operating manager engages in all of the functions of management at virtually the same time. However, the two functions of planning and control are so closely interconnected as to be singularly inseparable. They may even properly be referred to as the "Siamese Twins" of management. Certainly no manager can control who has not planned, for the very concept of control incorporates the task of keeping the operations of subordinates on course by correcting deviations from plans. Any attempt to control without planning would be meaningless since no manager can tell whether his subordinates are doing what he wishes them to do unless he knows beforehand what these wishes, or plans, are. Plans thus furnish the standards of control.

Planning is the conscious determination of courses of action designed to accomplish purposes. Planning is, then, deciding. It is, as Billy Goetz has so effectively said, "fundamentally choosing," and "a planning problem arises when an alternative course of action is discovered."[5] Planning is thus forward-looking--toward future action--and the job of planning is to make things happen which would not otherwise occur.

Control, of course, implies the existence of plans. As Fayol perceptively pointed out some years ago:

> "In an undertaking, control consists of verifying whether everything occurs in conformity with the plan adopted, the instructions issued and principles established. It has for its object to point out errors in order to rectify them and prevent recurrence. It operates on everything, things, people, actions."[6]

And, as Goetz has expressed it so well, "managerial planning seeks consistent, integrated and articulated programs," while "management control seeks to compel events to conform to plans."[7]

The basic control process is the same regardless of what is controlled. In addition to assuming clear and integrated plans, it must assume sound organization since there must be assurance that the necessary coordinated authority is given to subordinates who are expected to accomplish tasks. Given these prerequisites, the control process, wherever it is applied, involves three steps: (1) the establishment of standards; (2) the appraisal of performance against these standards; and (3) the correction of deviations.

A PRELIMINARY STATEMENT OF PRINCIPLES OF PLANNING AND CONTROL

In approaching the problems of formulating a statement of principles of

planning and control and, from their testing, clarification, and expansion, developing a theory of these closely related functions of the manager, it is useful to group these principles in categories. The principles seem to fall in the logical groupings of (1) those dealing with the nature of planning; (2) those having to do with the structure of plans; (3) those explaining the process of planning; and (4) those principles that deal with the managerial function of control. I do not, of course, claim originality for these principles since others have observed most of them in their studies of management.

FIRST GROUP OF PLANNING PRINCIPLES: THE NATURE OF PLANNING

It seems to me that a group of four principles explains the nature of planning. These four principles are the principles of contribution to objective, the primacy of planning, the pervasiveness of planning, and the efficiency of plans. Each of these principles will be considered in turn.

The Principle of Contribution to Objective

The principle of contribution to objective requires that every plan and all of its deviations must contribute in some positive way to the accomplishment of group objectives.

This principle derives from the nature of organized enterprise, which must have as its raison d'etre the accomplishment of purpose through conscious and deliberate cooperation. Thus, the primary job of the manager must be so to guide, direct, or lead the persons for whose actions he is responsible that group purposes will be accomplished. This principle has been strikingly portrayed by Goetz when he said:

> "Plans alone cannot make an enterprise successful. Action is required; the enterprise must operate. Plans, can, however, focus action on purposes. They can forecast which actions will tend toward the ultimate objective of economic efficiency, which tend away, which will likely offset one another, and which are merely irrelevant. Managerial planning seeks to achieve a consistent, coordinated structure of operations focused on desired ends. Without plans, action must become merely random activity, producing nothing but chaos."[8]

The Principle of the Primacy of Planning

This principle states that planning is a primary requisite to the managerial functions of organization, staffing, direction, and control.

To a very great extent, one may say that all of the functions of the manager so intermesh that it is impossible to have management without all of them, and thus each is a prerequisite to the others. But the planning function plays a unique role. The establishment of objectives is planning, and goals are necessary for meaningful group effort. Certainly it becomes necessary to make plans for the purpose of effectuating these objectives before one can know the kinds of organizational relationships that are required the qualifications that the needed personnel must possess, the line or course towards which to direct subordinates, and the kinds of control that are to be applied.

The Principle of the Pervasiveness of Planning

The principle of the pervasiveness of planning makes it clear that planning is a function of every manager at every echelon in an enterprise.

Although the character and breadth of planning will vary with a manager's delegation of authority, it is virtually impossible so to circumscribe a manager's area of choice that he has no discretion in any of his actions. In fact, unless a manager's job includes at least some planning, there is doubt that he is truly a manager. The recognition of the pervasiveness of planning goes far towards understanding why the attempt on the part of some students of management to make a clear distinction between policy-making and administration or between "the management" and the administrator or supervisor has been a fruitless one. Although one manager, because of his authority or position in the organizational structure, may have more planning work to do, or more important planning, and although the policy determinations of one manager may be more basic and applicable to a larger portion of the enterprise, the fact is that planning is a function of every manager, whether he be the president or one of the foremen.

The Principle of Efficiency of Plans

A plan is efficient if, as it is placed into effect, it brings about the attainment of objectives with the minimum of unsought consequences and with results greater than costs.

I am, of course, indebted to Chester Barnard for having so clearly pointed out the applicability of concepts of effectiveness and efficiency to systems of human cooperation.[9] A plan can be effective in the sense that it contributes toward objectives, but it may do so at unnecessarily great cost. The concept of efficiency here used is employed in the sense of a ratio of input to output. However, it goes beyond the usual sense of such inputs or outputs as dollars, man-hours, or units of production, since it encompasses, in addition, such matters as individual and group satisfactions.

While many managers have followed plans where the costs were greater than the revenues obtainable--such as in the acquisition of certain aircraft by the airlines--other companies have inefficiently attempted to attain their objectives by the unsought consequences of market unacceptability, such as happened when one of the large motor car manufacturers tried to capture a post-war market by emphasizing engineering without competitive advances in style. Plans may also become inefficient in the attainment of objectives by arousing individual and group dissatisfactions. Certainly many attempts to install management appraisal and development plans have failed because of group resentment to the methods used, even though these methods, if they had been accepted, would have succeeded in the goal of a better quality of management.

SECOND GROUP OF PLANNING PRINCIPLES: THE STRUCTURE OF PLANS

A second group of principles relates to the structure of plans. While, as is the case of any statement of principles, there may be other fundamental truths that can be mentioned, I have found four that seem to me to be most significant. These principles, if followed, can go far in tying plans together,

in making sure that planning in one department of an enterprise harmonizes with plans in another part of the business. They may be referred to as the principle of consistent planning premises, the principle of timing, the principle of policy framework, and the principle of planning communication.

The Principle of Consistent Planning Premises

As a requisite to co-ordinated planning, those who engage in planning must have an understanding of the planning premises and must agree to utilize consistent planning premises.

Planning premises are assumptions for the future. They may be forecasts of data of a factual nature or they may be basic policies expected to be applicable to the future. They may be matters internal to the firm or external to it. They may be within or beyond a firm's control. They may even be the plans of the firm and they are often plans of competitive businesses or of those firms supplying, or buying from, a company. In other words, they are "the future" to which the manager engaging in planning must fit his plans. They are the stage on which he will play his managerial role.

It can readily be seen that the requisite planning premises will not be the same for every manager at every level and in every type of activity in an enterprise. Some of the premises required for most managers will be the same, others will be shaped by the kind of organizational responsibility he has, and those for managers in lower levels will clearly be shaped by the plans of their superiors.

But, to the extent that it can be done, every manager should have an understanding of the kind of future against which he is to plan. Moreover, these planning premises must be consistent and, in most cases, they must be uniform. For example, despite disagreement among managers as to whether there will be a business recession in the next six months, a given set of plans should proceed upon some uniform premise. While the premise selected may not turn out to be accurate, and a plan may fail for this reason, one can be sure that plans will fail, if inconsistent premises are used. For example, failure will surely occur if the sales manager is allowed to plan for a boom year and the production manager for a recession, or if the production department plans for rapid expansion of output, with increasing inventories and capital expenditures, while the treasurer plans cash needs on the basis of a stable rate of production.

The Principle of Proper Timing

According to this principle, effective and efficient planning requires adequate timing horizontally and vertically in the structure of plans.

Most of the advantages of planning premises lie in proper timing, although the understanding and utilization of uniform planning premises may not assure proper timing. The importance of timing in planning is no where better evidenced than in a complicated assembly line, such as that used for the manufacture of automobiles. The proper blending of chassis, engines, bodies, colors, and accessories in order to achieve the desired result of a scheduled car obviously requires timing of the most precise type. While such precise timing is not usually required in other aspects of business planning, I have often thought that if the mistakes of other managers showed

up as readily as the planning mistakes of production managers, the quality of business planning generally would be greatly improved.

What is often overlooked in plans is that timing is both a horizontal and a vertical matter. It is clearly not enough for the training department to have the right number of operatives trained to utilize a new process or machine, and for the purchasing department to have the machine ordered in time for use when the operatives are ready, while the financial department remains unprepared for necessary accounting techniques and cash resources.

The Principle of the Policy Framework

This principle states that policies establish the framework upon which planning procedures and programs are constructed.

Policies are guides to decision-making. Policies derive from enterprise objectives, which are the most basic of all policies. As such, they are the guides to thinking which lead to operational plans. In doing so, one policy may beget derivative policies as well as procedures, budgets, tactics, and the other constituents of a program.

Policies, it seems clear to me, are a kind of plan. Involving as they do the choice of an alternative for future action, they are an integral part of plans, the guiding rules under which increasingly detailed plans are made as enterprise goals are transformed into action. If it were not for the complexity of most enterprise operations, or if it were possible for detailed action plans to flow immediately and readily from the architect of the enterprise's objectives without going through a hierarchy of managers, policy formulation could conceivably be limited to the task of stating the enterprise objective.

But complexity both in the definition of tasks to accomplish objectives and in the management structure that is normally required plus the fact that managers often wish to delay given decisions until faced with concrete situations, require a framework of derived policies which must necessarily be consistent and coordinated if resultant programs are to be effective in terms of accomplishing basic objectives.

Policies may be as major as that of a company which plans to finance all growth from profits or as minor as the policy of requiring workers in a machine shop to wear safety glasses. They exist in every aspect of the enterprise function and few indeed are the managers who are so low in the organizational structure that they do not at some time make policy to guide the decision-making of their subordinates. That these various policies must be consistent is often not fully appreciated in practice. For example, some firms have found to their sorrow that their policy of promotion from within conflicts with another policy to develop as competent a group of managers as possible.

The Principle of Adequate Communication Regarding Planning

According to this principle, the best planning occurs when every one responsible for it has access to complete information affecting his area of planning.

It is difficult to expect a manager at any level to do an effective job of planning unless he has available to him an understanding of enterprise objectives, policies affecting his area of planning authority, plans of

others--whether superiors or colleagues--which affect his plans, and other kinds of information. One of the best means of assuring communication of planning information is to have as many managers as possible actually participate in making plans affecting their areas of operation.

Because the practical difficulties of furnishing adequate information have been so great, because many managers do not understand the true import of this principle, and because, in business, at least, internal security is regarded as necessary to avoid loss of information to a competitor, the typical enterprise tends to develop what might be called a "planning gap." The executives at the top of the enterprise may understand the company's basic goals and policies and the workmen at the operating level may understand what is expected of them to turn out a day's work, but there tends to exist a gap between the top and bottom in which managers do not understand how their departmental goals and policies tie in with the goals and policies of the enterprise as a whole. Even in one well managed company with which I am familiar, a survey indicated that the most pressing need of the top fifty executives immediately under the vice presidential level was for knowledge of top management plans. If this gap existed in the second level of command, one cannot help but wonder how severe the gap was at lower levels.

THIRD GROUP OF PLANNING PRINCIPLES: THE PROCESS OF PLANNING

Within the process of planning itself, there is a third group, comprised of six significant principles, the understanding of which can do much to furnish a basis for the development of a science of planning. These are the principle of alternatives, the principle of the limiting factor, the principle of navigational change, the principle of flexibility, the commitment principle, and the principle of strategic planning.

The Principle of Alternatives

This principle states that in every course of action alternatives exist, and planning involves the selection of the alternative courses of action which will best enable the enterprise to realize its goals.

There are almost invariably alternatives to any course of action and planning seldom involves a "Hobson's choice."[10] In fact, the problem normally faced by the manager is that he has so many alternatives open to him as to make the selection of the best alternative an extremely complex task.

It is exactly in the area of the principle of alternatives that the methods of operations analysis, the utilization of higher mathematics, and the use of electronic computing machines play their major roles. By exposing to the manager's view a much wider range of alternatives than heretofore possible and by forcing the manager to construct models so that these alternatives are weighed in the light of carefully perceived goals, these tools of management open the way for a new day in planning.

The Principle of the Limiting Factor

According to this principle, in choosing from among alternatives, primary attention must be given to such factors as are limiting or significant, or strategic to the solution of the problem involved.

In every problem area there are certain factors which are of strategic importance to determining whether goals will be attained. These may be few or many factors, and they may change over time in a certain problem area, but, at a given time, there are almost invariably a few that will be most strategic to the solution. While an error in choice of a course of action can be made in concentrating only on limiting factors, the complexity of the many decisions typically facing a manager makes it impracticable for him to consider every facet of a problem, and the risk involved in overlooking the less important aspects of a problem is usually less than the risk involved in delaying the decision.

Chester Barnard recognized the importance of this principle when he pointed out that:

> "The analysis required for decision is in effect a search for the 'strategic factors'... The theory of the strategic factor is necessary to an appreciation of the process of decision... The limiting (strategic) factor is the one whose control, in the right form, at the right place and time, will establish a new system or set of conditions which meets the purpose."[11]

That this is an eminently practical business planning principle is immediately evident when one approaches a typical business problem. While the horizons of alternatives and the reflection of the influence of variables have been considerably broadened by mathematical techniques, models which yield to mathematical solutions in any but the relatively simple business problems can choose only relatively few of the more strategic variables. And when a manager is faced with a problem for decision making where either certain significant variables are not quantifiable, or where time or resources do not permit the use of operations analysis, he finds that his best approach is to think through the problem in terms of the limiting factors involved, and solve it in terms of these. As an astute business manager once remarked to me, "All business problems are simple if you can break them down into their most significant parts."

The Principle of Navigational Change

The principle of navigational change states that effective planning requires continual checking on events and the redrawing of plans to maintain a course toward a desired goal.

It is sometimes erroneously believed that planning freezes action for the future. However, the future is uncertain, and unforeseen events, whether changes in the operating environment or in goals, may render even the best plans obsolete. Thus, effective planning requires that the manager, like the navigator, continually check his course and revise plans to meet the goals desired. While it is true that the commitment of funds or effort may bring elements of inflexibility into planning and plans cannot always be modified with changes of the tides or winds of the future, it is likewise true that no effective manager makes a plan and then proceeds to put it into effect regardless of what events occur. Naturally, if a manager has been able to forecast the future with a reasonable degree of precision, if he has been able to make premises which are accurate, if he has been able to establish long-range goals and arrive at planning decisions which are correct in the

light of all these things, plans may require very little change. Yet the manager must continually check his course and revise his plans to the extent that such revision is necessary.

The Principle of Flexibility

This principle states that effective planning requires that the need for flexibility be a major consideration in the selection of plans, although the costs and dangers of flexibility must be weighed against its advantages.

To many planners the principle of flexibility is the most important principle of planning. The need for flexibility arises from the uncertainty of the future and from the fact that many plans require commitment of funds or effort, or commitment to a particular policy, all for varying periods into the future. Since uncertainty tends to increase as a function of time, the greatest flexibility is required where the comitment for the future is large and cannot be discharged in a short period of time. This would, for example, be true in the case of large expenditures for capital, where the outlay will be recouped in increments which include a return on the capital invested.

Flexibility involves the ability to change a plan without undue cost or friction, an ability to detour, and an ability to keep moving toward a goal despite changes in environment, or even failure of plans. It thus applies to the adaptability or adjustable nature of plans themselves, while the principle of navigational change applies to the planning process and emphasizes that there is an inherent need to redraw plans. While it often happens that the redrawing of plans requires the junking of an inflexible plan, sometimes at heavy loss of sunk costs, it is clear that navigational change is easier and less costly if plans have built-in flexibility.

Although flexibility is usually related in business to the ability to change plans without serious financial loss, it cannot be overlooked that inflexibilities in matters other than financial costs are often encountered. Inflexibilities of policies and procedures, psychological inflexibilities of workers and managers, and social and political rigidities often occur to plague the manager who would change his plans.

Flexibility is possible only within limits. In the first place, a manager cannot always put off making a planning decision long enough to make sure of the correctness of his course of action in the light of future events. Decisions must often be made well in advance of the environment for which they are required. Fore example, the decision of an oil company to build a refinery in the Pacific Northwest had to be taken some five years before it was operated and the financial commitment was made several years before the management of the company could be certain that this would be an economically profitable venture.

In the second place, built-in flexibility of plans may be so costly that the benefits of hedging may not be worth the cost. Whether a company spends extra money to make a special purpose plant somewhat flexible, so that it might be used for other purposes if the original program failed to meet expectations, will depend on the costs of doing so and the importance of the risks to be avoided. Moreover, some companies have felt that they could buy flexibility by keeping their resources in that most flexible of all assets--cash--only to find that their competitor had stepped forth with

aggressive expenditures and captured the market.

The Commitment Principle

This principle requires that planning encompass a period of time in the future necessary to foresee the fulfillment of commitments made.

This principle would appear to answer the oft-raised question as to how far into the future plans should extend. Perhaps the most striking aspect of the principle is that one should plan ahead for a period far enough into the future to anticipate the recovery of costs sunk in a course of action. In fact, I have previously referred to this principle as the recovery of cost principle.[12] But since other things than costs can be committed for various lengths of time and because a commitment to spend often precedes actual expenditure and may be as unchangeable as sunk costs, it seems appropriate to refer to this guide for the length of the planning period as the commitment principle.

The application of this principle indicates readily that there is no uniform or arbitrary length of time into the future that a given company should plan or for which a given program or any of its parts should be planned. An airplane company that plans to produce a new jet aircraft should probably plan this program some twelve years ahead, counting five or six years for conception, engineering, and development, and as many more years for production and sale, in order to recoup costs and make a reasonable profit. An instrument manufacturer may need to plan its instrument revenues and expenses only some six months ahead, since this represents the cycle of raw material acquisition, production, inventorying, sales, and collection of accounts. But the same instrument company might wish to see much longer into the future before assuming a lease for specialized manufacturing facilities, undertaking a program of management training, or developing and promoting a new product line.

The length of the planning period will be influenced not only by the length of time it may take to recover costs from an investment or for discharging an obligation under a commitment, but also the extent to which flexibility has been built into the plan. Thus, a company might be willing to lease a factory for ten years, even though it is impracticable to plan for longer than three, because of the possibilities of subleasing the facilities on a year or two notice. But where the possibilities of flexibility are not great, it is desirable to plan for the entire period of commitment. This almost surely explains why the major oil companies have led the nation's managements in the excellence and length of their long-range planning, for there is probably no investment quite so fully committed as that made in the development of an oil field, the building of pipelines, and the construction of refinery facilities.

The Principle of Strategic Planning

The principle of strategic planning states that effective planning under competitive conditions--that is, where others are striving for the same goals--requires that the course of action selected be chosen in the light of what a competitor will, or will probably, do.

This principle has long been followed in competitive industry, although most of the strategic planning so done has been based on hunch or judgment. But

in recent years, particularly, many managers have come to find out that their planning efforts are inadequate unless, in addition to planning their own courses of action, they, in effect, plan what their competitors will probably do. To the extent to which they are able to foresee what their competitors will do, they may modify their plans in this light, thus, in effect, taking advantage of competitors' plans in formulating their own plans.

While some form of industrial espionage may help in strategic planning, the mere close watch of a competitor's actions may be enough. However, in an increasing number of instances, managers are trying to work out in some detail exactly what the competitor will probably do. The policy of one's own business firm may be clear and its plan well developed, but strategy may require the shading of plans and policies to meet or offset those of others.

THE PRINCIPLES OF CONTROL

The fact that there seem to me to be so many fewer basic principles of control than principles of planning indicates the extent to which control depends upon planning and how it is largely a technique for assuring that plans are realized. These techniques of control, important as they are to effective control, are usually methods or procedures and arise from the application of principles, but they are not principles per se.

It can be argued that the control function of management tends to coalesce with other functions, notably planning and direction. This is not surprising in the light of the essential unity of management. It indicates only that the functional approach to the managerial job is a helpful tool in the development of a theory of management but not a means of placing managerial functions in airtight compartments.

But this coalescing of the control functions with other functions of management does mean that many of the principles of organization, direction, and staffing which may seem to some to be inherent in control are eliminated from the summary of principles attempted here. Thus, some of the principles of incentive and opportunism, command, authority and responsibility, and many others are more particularly related to these other functions and will not be included in a summary of principles of control. However, there do seem to be four rather basic principles of management control: the principles of strategic point control, the principle of organizational suitability, the principle of future controls, and the principle of direct control.

The Principle of Strategic Point Control

This principle states that the most effective control occurs when primary attention is given to such factors as are strategic to the appraisal of performance.

Although total plans furnish the most complete and accurate standards against which to measure performance, it would ordinarily be wasteful for the manager to follow every detail of planning execution and often unnecessary and inefficient for him to watch even every fairly important phase of performance. What he must know is that the plans are being executed in such a manner that

they can be accomplished. He must, therefore, concentrate his attention on such factors of performance as will indicate whether significant deviations are occurring or will occur.

I do not know of any easy guidelines which might be applied by a practicing manager to determine what standards he should have, since selection of standards seems to be predominantly a matter of the managerial art. However, it might be said that the manager can reach his own solution to his problem by asking himself what things in his operations will show him best whether the plans for which he is responsible are being accomplished.

This principle is, of course, akin to Taylor's exception principle.[13] It was Taylor's wise contention that the manager should only concern himself with the especially good and the especially bad situations. But the principle of strategic point control goes further than Taylor's exception principle. Implied in strategic point control is the idea that there are normally in any situation certain factors which serve as strategic indicators of the quality of planned performance. The manager watches these constantly, even though, admittedly, he need take action only if current or expected performance deviates materially from these factors. Thus, a railroad operations executive may continually watch on-time performance as an indicator of the quality of operations, even though he seldom finds significant deviations. Or, a corporate financial officer may carefully watch levels of receivables, inventories, and cash, constantly comparing them against projections, even though important deviations may not occur often.

In a very real sense, the principle of strategic point control is a refinement and extension of the exception principle. It is true that management by exception makes for managerial efficiency, but if the points at which the manager watches for exceptions can be such as are strategic for planning success or failure, his efficiency can be materially improved. The number of strategic points at which the manager will apply standards will vary with the importance of the plan, the significance of the deviations, and the extent to which given strategic points furnish an accurate enough guide for planning performance.

The Principle of Organizational Suitability

In accordance with this principle, controls must be designed to reflect organization structure.

Since managers and their subordinates are the means through which planning events must be accomplished and control exerted, it follows that effective controls must be applicable to a manager's authority area and therefore must reflect organizational structure. Urwick expresses this idea as the principle of uniformity and emphasizes that "all figures and reports used for purposes of control must be in terms of the organization structure."[14]

Organization, being the principal vehicle of coordination, is the means for maintaining control and the manager himself is the focal point of control. Consequently, any device of control must be tailored to the organizational structure and the information to appraise performance against plans must be suitable to the position and the authority area of the manager who is to use it. While this has come to be recognized fairly well at lower levels of organization,

especially since cost accountants and others have learned that data which did not fit the organizational structure were inadequate for control, observation of many upper level managers leads one to doubt that this recognition is as well understood at that level.

The Principle of Future Controls

This principle states that since the past cannot be changed, effective control should be aimed at preventing present and future deviations from plans.

This simple principle is often disregarded in practice, largely because managerial control has been so dependent upon accounting and statistical data, instead of upon forecasts and projections. Moreover, managers have been too greatly preoccupied with decimal accuracy, an accuracy which can be attained only, if at all, from history. Just as planning must be forward-looking, so must control. It is fallacious, as is sometimes said, to regard planning as looking ahead and control as looking back. In the absence of any means to look forward, a reference to history, on the assumption that past is prologue, is admittedly better than not looking at all. But no manager who would attempt to do an adequate job of control should be satisfied with using historical records, adequate as they are for tax collection and for the determination of stockholder dividends. It is not difficult to see that it does a manager little good to find out in August that he failed in June for something that occurred in March.

Ideally, a system of control should operate with instantaneous feedback of deviations, like the servo system of an automated machine tool, so that the deviations are corrected before they occur, by the simple means of correcting tendencies to stray from desired performance. With the lack of adequate servo-mechanisms for most managerial tasks, the next best thing would appear to be a careful kind of projection of performance far enough in advance to foresee problems, so that action can be taken before the indicated deviation occurs. This is done now with cash forecasting by well managed firms, and many are the firms who owe their solvent existence to foreseeing indicated cash shortages and providing for them before they occurred.

This simple principle points the way toward an extremely fruitful area of research. There are unquestionably many areas of management where better "servo-mechanisms" could be developed to improve managerial control. Indeed, in this area, particularly, much might be learned by pooling the experience of successful managers.

The Principle of Direct Control

This principle emphasizes that the most effective technique of control in an enterprise is to assure the quality of subordinates, particularly managers.

In a very real sense, most controls used by managers today are based upon the fact that human beings make mistakes. They are, therefore, really indirect controls focusing upon the mistakes that have been made. But unquestionably the best means of assuring that events will conform to plans is to take more direct steps to assure the best possible quality of managers. The best managers make fewer mistakes, plan better and more thoroughly, establish a clear and coordinated organization, do the best job of selecting and training subordinates, and most effectively direct the activities of subordinates.

Fayol perhaps perceived this when he said in 1925 that the best method

of looking at an organization and determining the necessary improvements was "to study the administrative apparatus... One can ascertain immediately that forecasting and planning, organization, command, coordination, and control are properly provided for, that is to say that the undertaking is well administered."[15]

This principle explains the extraordinary interest, especially in the past decade, in managers as such and in manager development. It also seems to indicate that what is needed for the future is a careful and thorough audit of the quality of management. As a stockholder and corporate director, I would certainly find more use for a reliable, certified management audit than I would for a certified accounting audit, and I dare say that such an audit would be a more important control device for owners or managers than any other in use today.

CONCLUDING REMARKS

To the extent that this paper has succeeded in outlining major principles of planning and control and placing them in a logical framework, and to the extent that these or others may be expanded and refined, areas are defined where the most fruitful research in management planning and control can be undertaken. Whether or not my concept of these areas as presented herein is correct, it seems to me that the sharpening of techniques and the development of information related to basic principles can clearly improve the understanding and practice of management. There are altogether too many areas of management where research results have been confusing, albeit extensive, and this confusion has resulted largely from the lack of a clear framework of principles.

If we were to realign our research efforts to broaden knowledge of principles and interpret this research in the light of principles, we could surely progress further than has been done to date in developing a science of management. Too many management practitioners and researchers are so busily engaged in analyzing and recounting experiences, without reflecting on what is fundamental in the job of managing and expressing this experience in these terms, that their findings tend to contribute only a hodgepodge of structureless facts. The present wide preoccupation with the managerial process itself and the great importance of this process to the development of our society make it unwise to allow our intelligence and resources to be used so inefficiently.

FOOTNOTES

1. General and Industrial Management (New York: Pitman, 1949), pp. 14-15.
2. The Functions of the Executive (Cambridge: Harvard University Press, 1938), p. 289.
3. Organization of Industry (New York: Prentice-Hall, 1947), p. vi.

4. Essays in Sociological Theory, Pure and Applied (Glencoe, Illinois: The Free Press, 1949), p. 17.
5. Management Planning and Control (New York: McGraw-Hill Book Company, Inc., 1949), p. 2.
6. Op. cit., p. 107.
7. Op. cit., p. 229.
8. Ibid., p. 63.
9. Op. cit., p. 19.
10. Editor's note: The expression "Hobson's choice," that is, "this or nothing," arose from the practice followed by Thomas Hobson (1544 to 1630), the Cambridge-London carrier, in letting his horses out for hire: he refused to permit any horse to leave the stable out of its regular turn.
11. Op. cit., pp. 202-3.
12. Principles of Management (New York: McGraw-Hill, 1955), pp. 441-42.
13. Frederick W. Taylor, Shop Management (New York: Harper and Brothers, 1919), pp. 126-27.
14. L. Urwick, The Elements of Administration (New York: Harper and Brothers, 1943), p. 107.
15. Quoted by L. Urwick in his foreward to Fayol's General and Industrial Management (New York: Pitman, 1949), p. x.

TOWARD A CONCEPT OF EDUCATION FOR ADMINISTRATION

PAUL C. GOELZ

ST. MARY'S UNIVERSITY

In our highly interdependent society the complexity and scope of administration urgently demands a precise analysis of the administrator's managerial activities which co-ordinate the diverse, but interrelated, functions exercised in combining material resources and personnel for the achievement of organizational objectives.

The question might be raised whether the present programs in departments and schools of business administration are adequate in providing the type of preparation necessary for the professional administrator. In this brief note there is no intention of exploring and evaluating academic objectives and offerings. Rather, the purpose is to solicit opinions as to the seriousness of the current academic problem and the character of its solution, and, more especially, to assess the role of the Academy of Management and its Journal in perfecting a program of professional management education.

If an academic discipline of "administration" is to be evolved, a body of principles and broad procedures must be uncovered and formulated which will encompass but transcend the accounting, financial, marketing, personnel, and other areas of specialized management. This is to say, a theory of administration that will serve as a preparation for administrators in business, governmental, institutional, and military organizations must be developed.

Parenthetically, it may not be objected that the comprehensive case method satisfies this need. The case method is, in my opinion, merely a pedagogical tool--of itself it cannot build a body of principles, or a theoretical structure.

Organizational technology has now at its command a history of experience to which the developments in the behavioral sciences can be conjoined to serve as a solid foundation for this theory. The preoccupation with compartmentalized thinking and compartmentalized areas must be replaced by a sound comprehensive body of thought and action, which must embrace values ennobling the human personality. The Academy of Management is eminently qualified, both by the caliber of its membership and by its constituted purposes, to undertake this mission.

If the discipline of administration is to attain the stature which is its due, the following questions arise: For the communication and implementation of this theory of administration, is a type of instruction needed that is substantially different from that offered in our present departments and schools of business administration? Is our present orientation inadequate--will our present schools become true schools of administration? There is no thought here of suggesting specialized programs such as those offered in

graduate schools of public or government administration, for this would throw an impossible burden on the undergraduate school. Rather, the ideal curriculum would provide the individual with a sounder preparation for graduate training in management, while assuring a more liberal, functionalized intellectual development if he were embarking immediately upon his career.

The major concerns of the Academy of Management ought to be the continual refinement of the philosophy and functions of administration, the development of a concept of education for administration, and the motivation of our best young minds to enter this challenging and deeply satisfying area of professional performance.

Few would quarrel with this statement of objectives--perhaps it is even belaboring the obvious intent of the Academy's Constitution. Yet the obvious problems are not always clearly defined, they are sometimes tragically neglected, or no definitive steps are taken toward their solution. Could this Journal, from its very beginning, assist in the formulation and implementation of a program of study directed toward the solution of one of the most significant problems facing contemporary intelligent action--effective administration?

New Irwin Texts in Management

SELECTED READINGS IN MANAGEMENT

Edited by FREMONT A. SHULL, JR., Indiana University

This new book of selected readings is designed to supplement standard texts in fundamentals of administrative or industrial management. There are 47 selections included in the volume. Each section is prefaced with an editorial introduction to provide a framework for and to emphasize the essence of the articles included. Most of the sections conclude with an article which concerns specific company experience or actual application. Text price: $4.95.

BUSINESS ORGANIZATION AND MANAGEMENT

FOURTH EDITION

By ELMORE PETERSEN, University of Colorado, Emeritus, and E. GROSVENOR PLOWMAN, United States Steel Corporation

The Fourth Edition of this widely adopted basic text provides new and extended treatment of such topics as: human relations, decentralization of authority, managerial communication, research, automation, profit-sharing incentive, and new ideas in association and governmental management. In addition, it explains and illustrates the fundamental principles of business organization and management and shows their application to all types and sizes of business enterprise. Text price: $7.00.

CASES IN MANAGEMENT

REVISED EDITION

By HENRY M. CRUICKSHANK, Stonehill College, and KEITH DAVIS, Indiana University

This popular and successful book of cases in management has been reorganized into three main sections: 1) business management, 2) personnel management, and 3) industrial management. There are 31 cases included for each of these fields. Approximately one third of the cases are entirely new to this edition and many of the older cases have been improved, refined, and brought up to date. A complete and balanced picture of management problems is presented. The book can be easily correlated with leading management texts. Text price: $4.50.

BUSINESS MANAGEMENT AND PUBLIC POLICY

By RICHARD N. OWENS, The George Washington University

The points of view of business enterprise and the public objectives of business regulation are combined in this new and fresh approach to the study of business policy. It presents a dynamic picture of business organization and management in operation. Four functional areas are treated: 1) financial policy, 2) production organization and facilities, 3) marketing policies and practices, and 4) industrial relations. The entire presentation is written in a readable, interesting style. Text price: $6.50.

Write for Examination Copies

RICHARD D. IRWIN, INC.

1818 RIDGE ROAD HOMEWOOD, ILLINOIS